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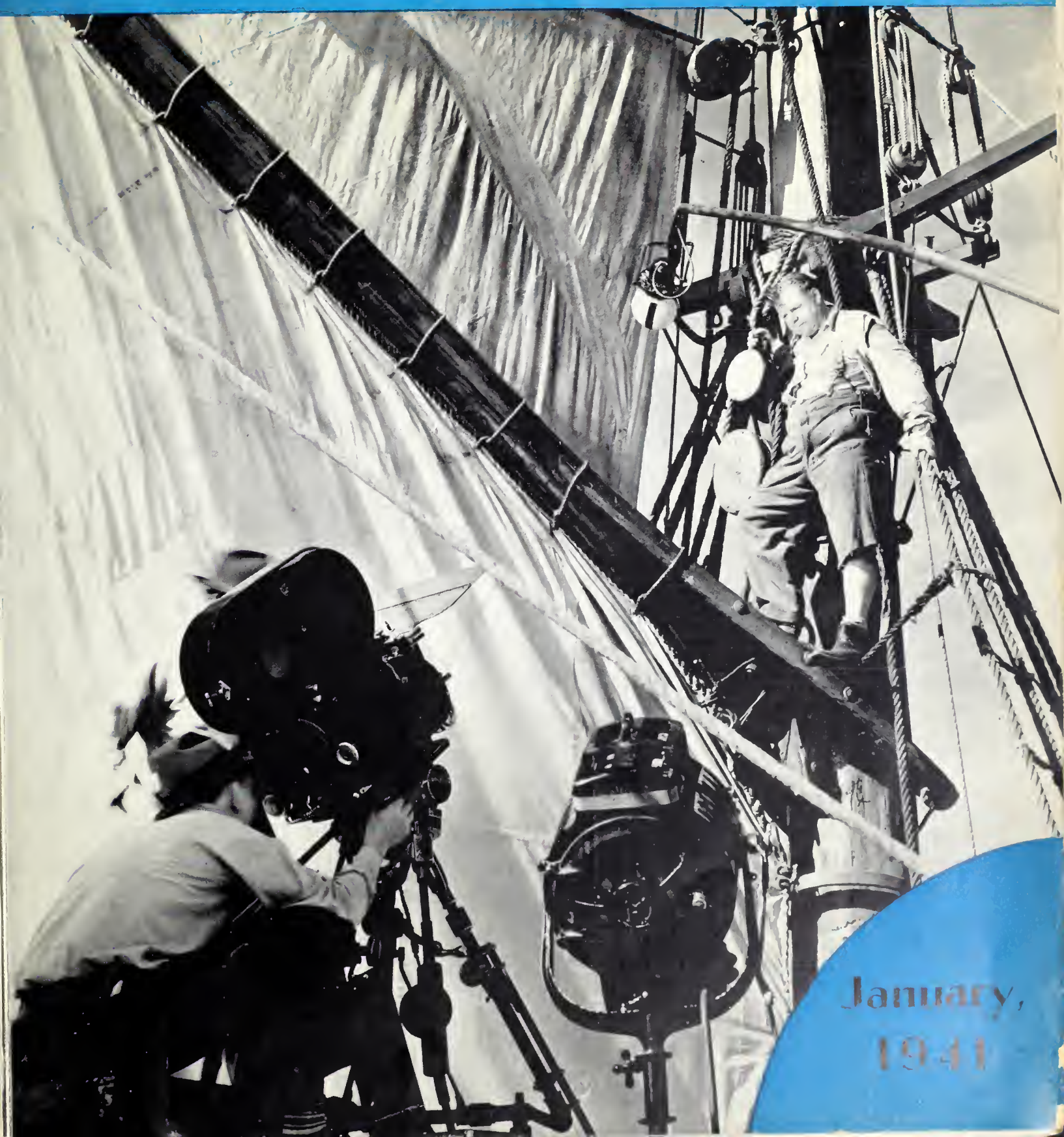
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AMERICAN *cinematographer*

★ THE MOTION PICTURE CAMERA MAGAZINE ★



January,
1941



35^M/_M Motion Picture Raw Stocks

Superior-3

Type 127

FILTER FACTORS

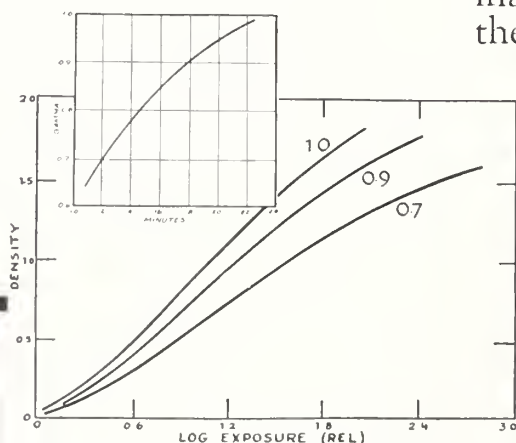
Filter	"Times" Factor	"Stop" Factor
Aero-1	1.5	$\frac{3}{4}$
Aero-2	2.0	1
21	2.5	$1\frac{1}{4}$
23A	3.2	$1\frac{1}{2}$
25A	3.2	$1\frac{1}{2}$
29F	5.0	$2\frac{1}{4}$
15G	2.5	$1\frac{1}{4}$
3N5	6.3	$2\frac{1}{2}$
5N5	8.0	3
25ND	1.8	1
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DAYLIGHT SPECTROGRAM



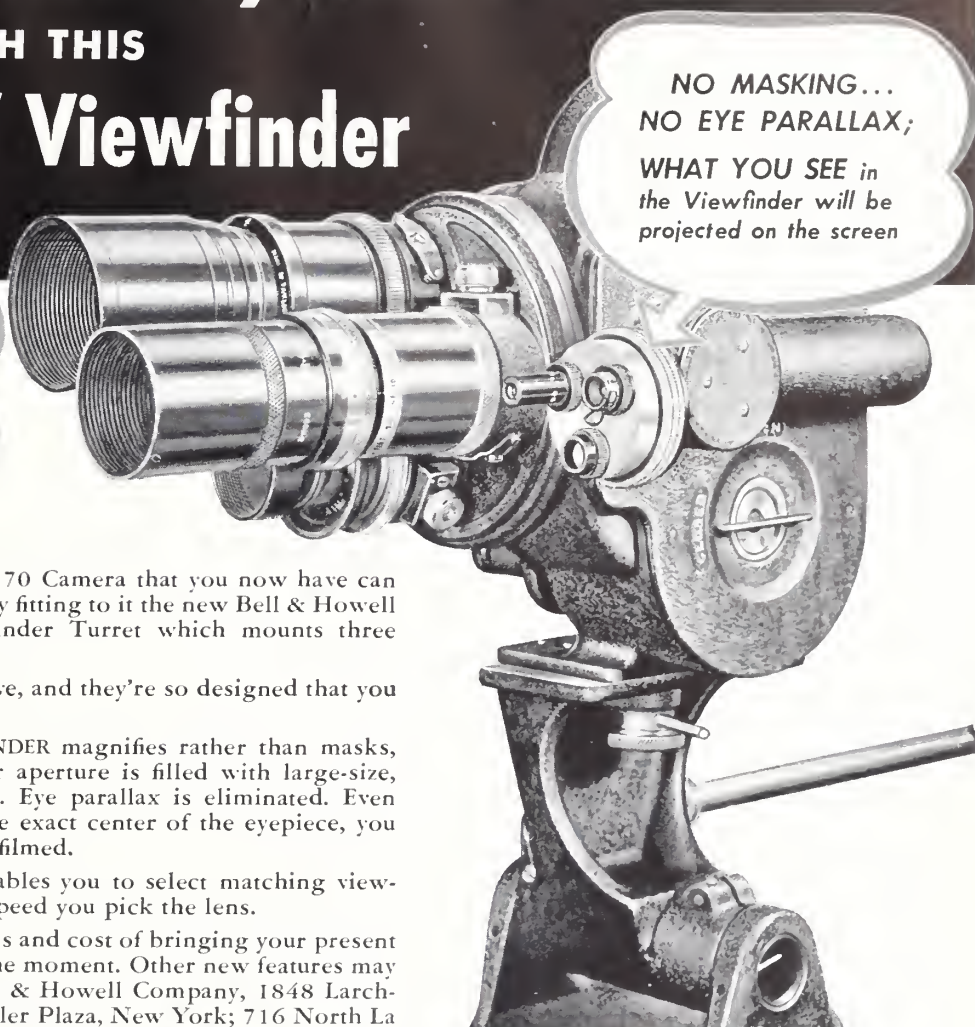
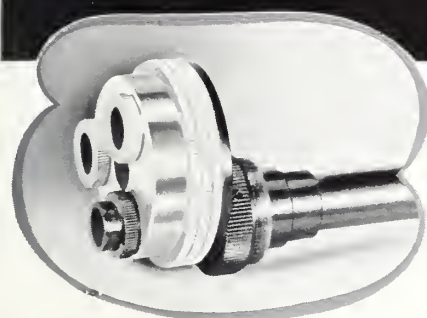
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The Front Cover

This month's cover shows Sol Polito, A.S.C. and his camera crew filming a scene for "The Sea Wolf" for Warner Bros. on an outdoor set to match level-camera angles shot on the sets in the huge marine stage. Note the use of a 2000-Watt spotlight to lighten the shadow-side of player's face. Still by Mac Julian.



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Technical Progress in 1940

AS MIGHT be expected under the disrupted conditions with half the world at war, technical progress in the motion picture industry followed somewhat conservative lines during 1940. With but one or two exceptions, progress in the professional field was in details and logically expectable improvements of existing equipment, materials and methods. In the event of the two most notable exceptions, truly radical changes were brought forth, but the industry has proceeded cautiously with their acceptance.

Advancement in the amateur field followed somewhat similar lines. As was predicted here a year ago, with the war in Europe virtually cutting off the importation of high-grade European-made cameras, there has been a marked increase in the number and variety of comparable American-made types. Several welcome and decidedly needed new types of 16mm. and 8mm. cameras appeared, together with more or less under-cover developments which indicate that the arrival of truly professional 16mm. cameras and production is growing closer to actuality.

Methods

A noteworthy advancement in methods was the erection by Warner Brothers' of a new stage especially for filming marine scenes. This stage is one of the largest, if not the largest in the industry, and capable of containing two large sailing-ship sets, each of which is capable of diagonal movement, and of being rocked in two planes by silent hydraulic mechanisms. Truly remarkable effects of sea and sky backgrounds in motion are also produced by use of a backing and projected ripple and cloud effects.

A development of considerable potential importance was the introduction of the so-called "Soundies"—nickel-in-the-slot continuous 16mm. sound projectors for use in cocktail lounges, etc. A number of the industry's prominent figures have announced intentions of entering this new field of production. At present, the bulk of these subjects are reduction-printed from 35mm., but some activity in direct 16mm. production is also noted, with more likely as time goes on. It is, at any rate, the industry's first widespread recognition of the possibilities of 16mm.

An interesting technical development was the announcement by DuPont engineers of a process of intensifying film products by partial fogging. This is done by exposure to a panchromatic safe-light for intervals ranging from 25 to 40 minutes at a distance of 5 or 10 feet. This, coupled with a 50 to 75 per cent increase in negative developing time is said to give speed increases of from 2 to 4 times, and to be consistent in results. It has been publicized as "Latensification."

Another development, of more interest to scientific filmers than to practical production cinematographers, is the adaptation of the Edgerton high-speed flash to the making of stroboscopic, super high-speed motion pictures. Speeds up to 2,000 frames per second have been attained. A short-subject of this nature, "Quick As A Wink," has been produced and released by Metro-Goldwyn-Mayer as a Pete Smith short.

Film—Professional

The chief advance in professional (35mm.) motion picture raw film materials appears to have been the introduction by the Eastman and DuPont organizations of new types of infra-red sensitive film. Both of these are featured by considerably increased speed and in the latter case, by sensitization which gives a darker rendition of the chlorophyll in foliage.

During the year DuPont's super-speed film, known as Superior, Type III, came into use.

Distinctly significant, also, has been the use by several well-known Directors of Photography of super-speed films of this type—notably Eastman Super XX—as a production negative material. The results have been surprisingly satisfactory, though it is understood contrast and grain characteristics have been improved by giving the negative short-time development.

As might be expected, due to the war, exports of American 35mm. raw-stock fell off considerably. A U. S. Department of Commerce survey made midway in the year revealed a 15 per cent decrease. Since then, the percentage of decrease is undoubtedly greater.

Film—Amateur

Comparatively few new substandard film products appeared during 1940. Agfa introduced a new, popular-priced double 8mm. product known as Agfa Twin-8 Panchromatic Reversible Film, and DuPont made a 16mm. acetate-base version of its well-known Superior, Type II, product available.

Agfa also began marketing the well-known Agfa Infra-Red negative film in several rollfilm sizes for still photography.

Color

Professionally, Technicolor retained its lead in the natural-color field, making several notable strides in processing methods. These included new methods of making matrices and prints, which resulted in increased contrast, better definition and color quality, and reduced costs. Technicolor release-print prices were reduced by one cent a foot.

Officially, Technicolor's long-predicted change to a monopack (Kodachrome-type) single negative which could be photographed in any 35mm. camera appears as far in the future as ever. How-

ever there seems to be considerable evidence that such a product is being used at least experimentally, and possibly for special scenes on production in instances where the bulk of conventional three-film Technicolor cameras would make the use of such cameras difficult or impractical.

An improved type of Dufaycolor is understood to be available. It is understood that Fr. Bernard Hubbard, the Alaskan camera-explorer, exposed a considerable amount of this product on his last expedition to Alaska. It is further stated that Dufaycolor film is to be made in this country and exploited commercially, with at least one major studio actively interested in the outcome.

The anticipated announcement of an American-made Agfacolor monopack color-film remains still in the future. However, it is known that American-made coatings are being produced experimentally, with results that are said to be excellent.

In the color-still field, Kodachrome continues in the ascendant. However, due in some part to the war, several excellent American-made one-shot color still cameras have been marketed successfully, several of them at popular prices. Among these may be noted the Curtis "Color Scout."

35mm. Professional Cameras

Nothing radically new appeared in this field. Despite the financial hardships incident to the wartime reductions of Hollywood's foreign market, several of the major studios have invested in new camera equipment. In several, the Mitchell "BNC" model has come into increased use, with some reported changing over completely to this instrument.

The Twentieth Century Camera, designed some years ago by engineers of the 20th Century-Fox Studio, has been put into production by Cine-Simplex, of Syracuse, N. Y. The studio is completely re-equipping its camera department with these new, blimpless units, ten having been ordered. After this order has been completed, the camera will be made commercially available by Cine-Simplex.

Substandard Cameras

Despite increasingly persistent rumors that at least one major manufacturer would announce a professional, studio-type 16mm. camera, nothing of this nature attained realization during 1940. At least three amateur cameras incorporating improved design reached the market, however.

Bell & Howell introduced an improved magazine-type 16mm. camera, equipped with a 3-lens turret and a matched-lens viewfinder system. This appears to be the first magazine-type camera so equipped.

Eastman introduced the Magazine Cine-Kodak 8, the first true magazine type double-8mm. camera yet built.



Non-reflection coating for lenses was an outstanding development of 1940. The 31mm. enlargements above show, left, test made with standard lens; right, test made with identical lens treated with non-reflection coating.

Revere, which during the previous year had entered the 8mm. field with a single-run 8mm. camera and an excellent projector, widened its field of activity by introducing a double-run 8mm. camera, licensed under the Eastman patents, and equipped with a 3-lens turret.

Lenses

The outstanding development in this field was the application to both new and existing motion picture lenses of various forms of non-glare coating. Several of the major Hollywood studios made varying use of existing lenses treated with the Vard "Opticoat" treatment. Others obtained new lenses, factory-treated with similar coatings from Cooke, Bausch & Lomb, and other manufacturers. All of the lenses on the new 20th Century cameras ordered by the 20th Century-Fox Studio were thus treated by Bausch & Lomb.

The chief advantages of this treatment are an almost complete elimination of internal flare when shooting into strong light-sources, a notable increase in apparent definition and contrast, and an increase in effective speed of between 1 and 1½ stops.

The lenses delivered to 20th Century-Fox by Bausch & Lomb were calibrated by special photometric methods devised by Supervisor of Photography Daniel B. Clark, A.S.C., which it is claimed give a more consistent measure of actual light transmission at any stop than previous methods.

Accessories—Professional

One of the most significant developments in the field of professional camera accessories is the built-in scene-slating device. Two of these designs were evolved independently by Paramount and 20th Century-Fox, and put into service almost simultaneously. While the two designs differ in detail, they are similar in principle. Each includes a miniature scene-slate to carry the necessary production data—scene and "take" numbers, etc.—an optical system to correct the focus of the camera lens while photographing the slate, and a self-contained illuminating system to provide adequate illumination

of the slate. Both give a full-screen image of the slate, and both utilize the film ordinarily wasted in bringing the camera up to operating speed.

In both instances the use of the built-in slater is expected to effect worthwhile savings in production-time and film footage, while at the same time providing more legible slates—an obvious advantage in editing.

Another interesting device was the make-up comparator devised by Joseph Walker, A.S.C. This consists of a box containing a simple viewing field, a rotatable unit upon which four standard make-up shades may be applied, a variable light-source to illuminate the make-up standard, and a conventional General Electric photocell meter to measure the intensity of the internal light. In practice, the light is set to give a predetermined meter-reading. After this, the standard make-up is compared with the face-tone of the principal player, and the lighting on that player balanced accordingly, to produce a similar visual effect as seen through the comparator's finder.

Accessories—Amateur

No radically new amateur accessories seem to have appeared during the year. Both Bell & Howell and Fink-Roselieve brought out new motion-viewers for film-editing, while Craig brought out a popular-priced 16mm. "Junior" model. Bell & Howell introduced a new, automatic fading device for all 16mm. and 8mm. cameras. Several new tripods for sub-standard and still use were introduced.

Lighting

Perhaps the most notable development in lighting during 1940 was the increased acceptance of the so-called "dinky" spotlights for both professional and amateur use. The first of these tiny, 150-Watt units was developed by the Warner Bros. Studio last year, and subsequently marketed in modified form by Bardwell-McAlister as the "Dinky Inky." It is being used increasingly in motion picture studio camerawork. In addition, several other manufacturers have brought out similar lamps, among which

may be mentioned the "Academy" and the Fink-Roselieve types. In addition to their professional use, these "peanut" spotlamps make spotlights for the first time available to the amateur at prices within reach of the amateur's purse. They are a direct result of the lower illumination requirements of today's high-speed film.

Several studios and cinematographers have experimented with the use of fluorescent tube units for soft front-lighting, especially in close-ups. While this type of lighting has not been widely accepted in motion picture use, its adaptability to portrait still work has been immediately evident. A commercial unit of this type has been marketed by Bardwell-McAlister under the name "Fluor-o-photo."

Meters

The acceptance of photoelectric light-measuring instruments by studio cinematographers, noted a year ago, has continued to increase. Today it may safely be said that there are very few Directors of Photography who do not to some extent at least make use of these instruments. In at least one studio, they are used universally.

Early in the year, General Electric brought out a new and modernized model of their popular meter, featuring a triple brightness-range and greatly improved low-level sensitivity. Weston brought out a modification of their "Master" meter, specially designed and calibrated for cine use. In addition, Capt. Don Norwood reported some extremely interesting experiments with the use of modified Weston and other meters for incident-light readings.

Special-Process Cinematography

The first units of a completely new assembly of equipment for projected-background or transparency process work were put into use in several studios during the year. Among these units may be mentioned improved projection-lenses developed by Bausch & Lomb, an improved Mitchell process-projection head, an automatically-controlled, high-intensity projection arc lamp-house de-

(Continued on Page 36)



IN the musical world there are a rare few musicians who have such complete technical and artistic mastery of their media that not only the general public, but also their super-critical fellow artists point to them as supreme examples of musicianly attainment. So, too, in the cinematographic world there are certain outstanding Directors of Photography whose work is eagerly studied by their fellow cinematographers as consistently flawless examples of what fine cinematography ought to be.

William H. Daniels, A.S.C., is one of these masters of the camera. He is a *cinematographer's* cinematographer. If you asked any member of Hollywood's closely knit and professionally hyper-critical camera fraternity—from Directors of Photography down to film-loaders—for a listing of the ten best Directors of Photography, the name of Bill Daniels would stand high on virtually every list. Among the non-photographic members of the industry, his name would rate almost as high.

But from this don't jump to the conclusion that Daniels' camerawork is necessarily showy or spectacular. It isn't, for Bill Daniels is too completely the cinematographic artist to permit it. Superbly pictorial when the occasion legitimately allows, Daniels' camerawork is planned with but one end in mind: to present players and story so perfectly that the camera-treatment itself becomes

merely the vehicle—although a perfect one—which brings story and characters to the audience. It must never call attention to itself.

Seeking this end, Bill Daniels has always striven to avoid what he considers the two greatest—though diametrically opposite—photographic pitfalls: on the one hand, routine, “formula” photography; on the other, exhibiting too spectacularly individualistic a style. He'll probably hate me for saying so, but in seeking to avoid these pitfalls, Bill Daniels has developed a style completely his own. Two successive Daniels pictures may not look in the least alike, yet both will be instantly recognizable to the camera-minded viewer by the sure precision that marks every phase of their

camera treatment—a certain singing smoothness which for all its variety of technique and artistic mood is as distinctive as anything on the screen.

Dramatically and photographically, “Marie Antoinette” had nothing in common with “The Mortal Storm,” “Ninotchka” or “Rose Marie”—yet all three of them share the imprint of the inconspicuously perfect execution which is Daniels' professional signature.

What sort of a person is this man Bill Daniels? Tallish, ruddy-faced, with red-brown hair and moustache and penetrating blue eyes, the first thing you notice about him is that like some of the more bewildering Irishmen of fiction, he seems somehow to be smiling internally even when he is most soberly concentrating on some perplexing production problem.

On the set, he exudes a curiously intermingled air of deft, easy-going competence with a strong sense of nervous dissatisfaction. The latter, I think, is dissatisfaction with himself, for in more than a decade I've never known Bill Daniels to admit that he was fully pleased with his achievements. He'll turn out a photographic job of Academy Award calibre—and even amid the backslapping of preview or premiere, if you ask him what he really thinks about it, he'll say it's “Pretty fair—I think I got about half of what I was aiming at.”

But to his fellow workers, it's another story. One member of the crew of his current production—his second at Universal after a long and distinguished

Aces of the Camera

I: WILLIAM DANIELS, A.S.C.

By WALTER BLANCHARD

career at MGM—summed things up this way. “I've seen lots of cinematographers with big reputations,” he said, “but when you come to work with them, they don't always live up to advance billing. But with this man Daniels, it's the other way around. He came to this studio a stranger—but today every one of us who has worked with him is for him 100%.”

“You see how he's handling things over there now? Well, it's the same all the time. He never puts on an act—never raises his voice or makes a fuss over anything. But, man oh man, how he knows his stuff! He seems to know instinctively just where every light should go, how strong it should be,

(Continued on Page 38)



FILMING VICTORIA -- CANADA'S "LITTLE BIT OF ENGLAND"

By CHARLES W. HERBERT, A.S.C.

THE travelogue cameraman can justly be compared with the prospector—both are always looking for new fields of operation. Some times they are far away in untried regions and sometimes they are near at hand by applying new treatments to "old diggings."

Just over the border, Canada, with its vast wilderness and its beehives of modern activity amid quaint settings, has always beckoned to the American cameraman. But strict government cus-

toms and working regulations for years made Canada one of the world's most difficult countries in which to work. For this reason, very little news or travelogue material made in Canada found its way to the screens supplied by American film producers. Recently the door to this picture field has been opened and more and more material can be expected to come from Canada to the American screen. This will result in a closer understanding of the problems and attractions of our neighbor—already bound tightly

to us with a common language (in the greater part of the country) and similar needs throughout.

It should be encouraging to other newsreel and travelogue producers to know that I have recently returned from Canada where wholehearted co-operation for entry and work was generously arranged by the National Film Board. John Grierson, whom I knew in London while making a *Magic Carpet* there in 1933, was appointed to the post of Government Film Commissioner for the Canadian



Film Board in January, 1939. Recognizing the invaluable publicity that goes with the showing of news and travelogue reels, one of his first acts was to pave the way for closer co-operation with American film producers so that their cameramen could work efficiently in Canada.

After a chance meeting between the Film Commissioner and Thomas Mead, managing director of Universal Newsreel, my visit to Canada was planned. The entry into Canada was expedited by arrangements between Mr. Grierson and the Canadian Customs Office. After arrival in Victoria, the British Columbia Government Travel Bureau and the Victoria Tourist Information Office worked hand in hand to see that the best possible subject-matter was put in front of the camera. The filming was then routine, allowing us to concentrate on technical details.

Such an arrangement is naturally ideal for all concerned. It gives assurance to the government that a first class reel will be made which meets with its approval. And it also makes it possible for the producer to turn out a worthy job efficiently at minimum expense and trouble.

Victoria, located on Vancouver Island in British Columbia, is best reached by regular Canadian Pacific boat from Seattle. The trip takes about four hours across a generally glassy, smooth channel flanked by mainland and islands. Most cities have their docks for commercial convenience located in the most unattractive sections. Unlike others, Victoria docks are nicely arranged downtown so that, as you step ashore, you are right in the front yard of the historic Parliament Building and the impressive Empress Hotel.

This natural approach right into the heart of Victoria was the logical introduction to our reel. Although Army and Navy censorship regulations required that no pictures could be taken of the harbor without being presented to them for censorship, we were able to meet this requirement without getting the negative developed in Canada. An officer from the Intelligence Department was taken along each time we planned to make a shot that included any part of the harbor. When the camera was set up, he censored the scene on the spot by looking into the focusing tube where he could see the exact field covered by the lens. When he was certain that no prohibited areas were included, he gave us permission to take the scene. Canada may be under wartime regulations—but they are sensibly applied!

We arrived in Victoria in the fall when there is fog and mist with which to contend. Worst of all, up the island where huge lumbering operations were in progress, they were burning slash (branches and waste lumber) which smoked up most of the landscape. Fog and mist will usually clear away after the sun is high, but smoke stays around a long time until a rain settles it. I've learned that haze due to suspended particles in the air can be penetrated with a heavy red filter and particularly with Infra Red film, providing the haze lies between you and a distant object such as a mountain or landscape. But a general haze or smoke that makes all of the sky gray and obscures the sun is impossible to clear up by photographic treatment. Whenever this problem confronted us, we chose only subjects which did not include much sky or a great distant panorama. We made a lumbering sequence by selecting forest backgrounds or made shots looking down without including the sky.



Around Victoria proper we were not bothered at all with smoke, and the mist always cleared away without holding us up too much.

While it is very difficult to make every travelogue reel different, still the greatest aid when possible is to seek for and apply a general theme to the treatment of the reel. Victoria had one of those outstanding, obvious themes that was easy to follow. Being the capital of British Columbia, situated on Vancouver Island, sixty miles from the mainland, Victoria is truly a Little England, and this gave us the logical theme. Many of the down-town buildings had unmistakably English architecture, and these furnished the foundation for opening shots as well as fitting backgrounds for various sequences which followed.

In the introduction we needed "Little England" close-ups in addition to the general views. Two Royal Scotch soldiers in kilts were featured in the foreground of a street scene. A policeman with English Bobby helmet filled the screen for another shot with the Parliament Dome towering above him in the background. Flower gardens, typically English, were covered in full views and striking close-ups showing bees coming in for nectar. Flowers, in baskets hanging from lamp posts, were even found in the regular downtown beautification plan.

Here and there about the city were stately old homes built in true English style. They added dignity and a touch



of atmosphere. Down in one of the parks we picked up a nice series of shots of some men bowling on the green, and over in the library an effective shot of some retired men selecting newspapers from the novel newspaper rack. To complete the little touches of English atmosphere we shot a quick scene of a boys' school where the foreground was filled with fast action of a scrum in a rugby football game, and a girls' school with the students in traditional uniforms changing class.

With an introduction in the bag, we took to the upper country where a fast-moving sequence was made of the lumbering industry—spectacular views of giant tree-tops falling, loading with astounding machinery, hauling by colossal trucks as well as trains, and the dump yard down in the bay.

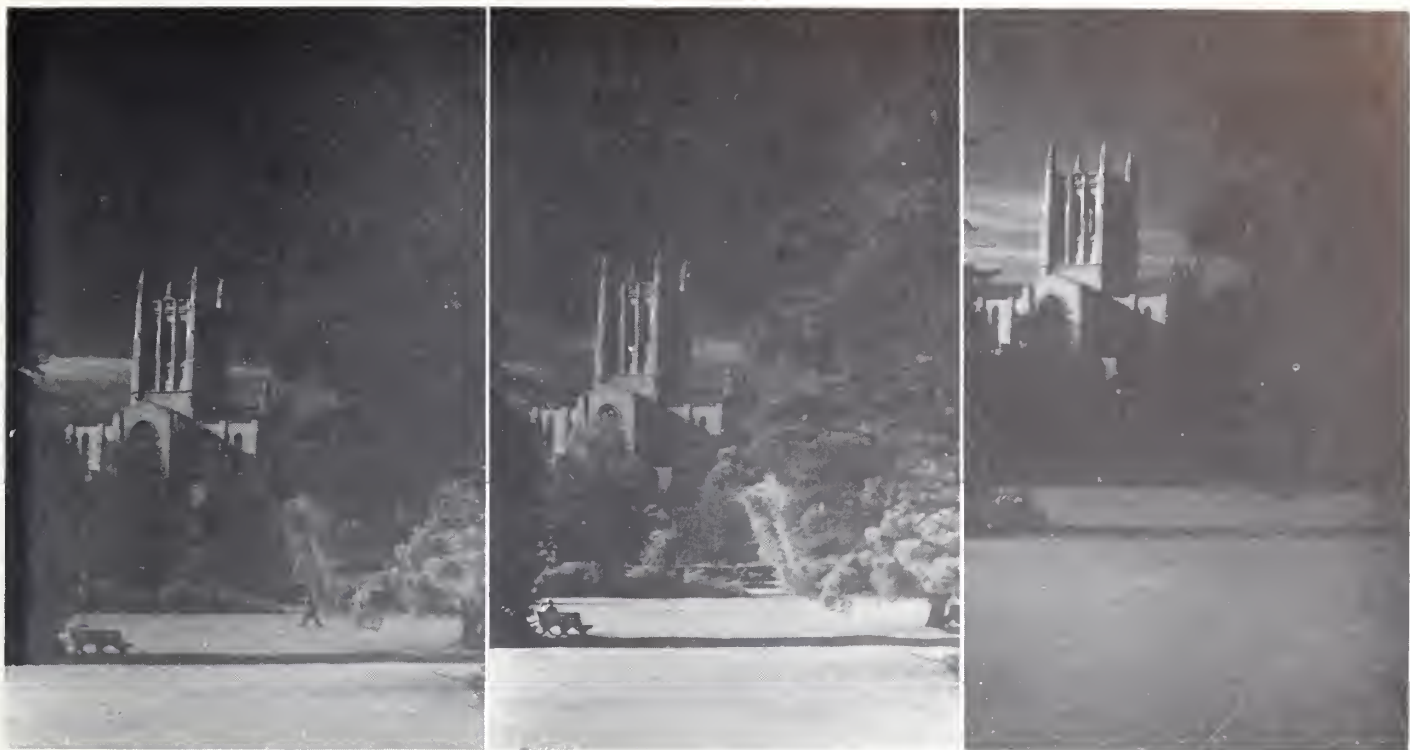
It was easy to keep away from smoke-obscured long shots in the dense forest as the tall trees naturally filled up all the backdrop space behind action close-ups of men chopping an undercut or sawing. Likewise the skidding tractors were so impressive that they only needed huge piles of logs for backgrounds. Logging is a rather ordinary subject but I tried to create some different shots by carefully selecting camera-angles that enabled me to make impressive scenes. When the cutters were chopping out the undercut, a wide-angle lens (for extra depth of focus) was used and the camera set so that one axe blade fell very close across the picture field; then as it was raised a waist close-up of the other man was visible as he brought his axe down.

Near a small town up the east coast of the island, there was an Indian Reservation. The Indian women were expert in the art of knitting heavy sweaters,



and the men carved out souvenir totem poles. These were home crafts and we found that it was just about impossible to make complementary scenes in the Indian homes. Besides only one person

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MAKING MODERN NIGHT-EFFECTS

By W. WALLACE KELLEY, A.S.C.

WHEN the first infra-red sensitive films for motion picture night-effect scenes were introduced some years ago, but one firm manufactured a sensitive material of this type. Since then, each of America's three major film manufacturers has developed an infra-red sensitive emulsion: each of the three has at different times held the center of the stage with a commanding product. But as we swing into 1941, cinematographers find themselves in a curiously advantageous position in this direction, for each of these three competing film firms offers an excellent, modernized infra-red product, and each has characteristics which adapt it to specific types of work. The cinematographer therefore has a remarkably wide range of film products to choose from when he films night-effects by day.

Modern infra-red films are better appreciated when it is understood what remarkable achievements in film sensitization they represent. The earliest types of infra-red sensitive emulsions were basically panchromatic films the sensitivity of which had been pushed up through and beyond the visible red into the invisible infra-red. For that reason it was necessary to employ ex-

tremely heavy filters like the 72, 80 and 88, which cut out virtually all the visible rays and allowed only the infra-red to penetrate. This, even with what were then comparatively fast emulsions, necessitated considerable exposures—usually a matter of maximum lens and shutter aperture.

The first of the modern infra-red types was the Agfa Infra-Red negative, which appeared early in 1937. This film was basically different in its sensitivity. It was not a basically panchromatic emulsion: instead of being sensitized to the whole spectrum, it was sensitive only to the extreme ends—the blue and ultra-violet at one end, as any emulsion based on the light-sensitive silver salts must be, and the extreme red and infra-red at the other. Therefore all that was necessary to obtain the desired infra-red correction was to use a filter which eliminated the blue and ultra-violet rays. Almost any red filter will do this, though in practice the 29-F is most commonly used. All modern infra-red emulsions are now of this type, though with varying

characteristics of speed, sensitivity and contrast.

The Agfa product, now modified as Agfa Infra-Red, Type B, retains the same basic characteristics which made its original predecessor famous. It gives the desired infra-red night-effect correction with only a moderately red filter. It requires only a moderate alteration in facial make-up—chiefly the use of a blue-red lip-rouge—for night-effect scenes involving people. It has perhaps the softest contrast characteristic of any of the present infra-red products.

The DuPont product, introduced in 1940 and known as "Infra-D," is a direct descendant of this firm's original infra-red negative introduced some years ago under the same name. But the modern-day Infra-D is a very different product from its forbear. It is vastly faster, and sensitized so that only moderate filtering is necessary. Finally, it embodies a distinct advance in infra-red sensitization in that for the first time an infra-red emulsion is available which does not render the green chlorophyll of plant-leaves a snowy white, but instead gives a normal, dark rendition of foliage.

The Eastman product, likewise a new-

Modern Infra-Red Night-effects. Left, Agfa Infra-Red, f:5.6; Center, Eastman Pan-K, f:16; Right, DuPont Infra-D, f:8, all exposed 1/25th second. Photos by Wm. Stull, A.S.C.

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HOLLYWOOD'S major studios are putting 16mm. to work as a seriously professional aid to feature production which it is anticipated will save the industry hundreds of thousands of dollars every year. In at least three of the industry's largest studios, the use of 16mm. has within recent months become a routine, almost commonplace occurrence; in others, this newest development is being carefully watched.

One of the most necessary, yet at the same time most troublesome of the pre-production preparations for making a modern feature film is the matter of making tests, especially for Technicolor productions. Fabrics, pigments, costumes—sometimes even complete sets—must be screen-tested to determine their suitability. Actors and make-ups have to be test-filmed to make sure they will fit their roles. Locations have to be

as cinematographers gain greater familiarity with the use of Kodachrome under studio conditions, and especially when and if Technicolor changes over to its long-rumored single-film Kodachrome-type process, the results should reach almost perfect parity. Already, the range of color-control in Technicolor printing is such that in some instances Technicolor production "takes" are understood to have been corrected in printing to correspond more closely with the Kodachrome test-shots.

Use "Type A" Kodachrome

For the wardrobe and costume tests which make up a heavy percentage of these tests, "Type A" Kodachrome film is used. The director of photography making the test lights in his normal manner, making only the necessary compensation for the film's emulsion-speed,

for which we have used 16mm., we have found the smaller film eminently satisfactory, and a great saver of time, money and trouble.

"As a matter of fact, modern 16mm. equipment and emulsions have reached a point where there is absolutely no reason why they should not be satisfactory for this sort of use. That is, as long as they are intelligently handled, and by trained photographic personnel. In the hands of non-photographers, or of photographers who consider because 16mm. is widely used for amateur movies, it is a plaything and need not be taken seriously, it can and does of course give inferior results.

"But we handle our 16mm. tests with full studio crews, who give it the same expert handling that would be accorded 35mm. Accordingly, we get professional results. For example, in our interior

16mm. Goes Professional

By WILLIAM STULL, A.S.C.

scouted, and test-shots put on film to be brought home to screen for director and executives. Thousands of feet of film often have to be exposed on these various tests before ever an inch is shot on the actual production. All of this costs money, especially when the tests are made in Technicolor, at an average expense for film alone of 33 cents a foot, to say nothing of the rental of the expensive Technicolor camera and the time and effort consumed in getting nearly 600 pounds of camera into action for a few feet of film.

So today 16mm. is to an increasing extent taking on these pre-production duties at vastly less cost in time, effort and money, and with little if any sacrifice in technical accuracy.

Amateur Cameras Used

In most instances so far, ordinary home movie cameras are being used; in some instances, Magazine Cine-Kodaks; in others, 70D-A Filmos. They are manned by full professional crews, and handled in every way like the 35mm. studio cameras they are supplementing. One studio has even adapted an erstwhile 35mm. dolly to permit dollying the little 16mm. cinebox!

At present the chief use of these substandard cameras is for making wardrobe and similar tests, and in scouting locations, especially for Technicolor productions, where naturally the margin of saving is greatest. Admittedly, Kodachrome and Technicolor do not as yet give absolutely identical reproductions of fine gradations of color; but for these eminently practical purposes, the results are so closely similar that the results are quite comparable. Presumably, too,

which differs somewhat from that of Technicolor.

The professional, photoflood-type "CP" (color photography) globes are used in the lighting units. These burn at approximately the same color-temperature as the amateur's familiar photofloods, for which the "Type A" emulsion is balanced. The results on the screen are closely comparable to those obtained with Technicolor film and the usual arcs—and obtained with much less trouble. For exterior tests—location scouting, and the like—the regular "daylight" Kodachrome film is of course used.

Projection methods and equipment vary. In some studios, the familiar Bell & Howell and Eastman home projectors are used as highly portable units, making it possible to show the tests to a director or executive in any convenient projection-room, in a private office, or even in some cases in the executive's home. In others, the trend is toward a more fixed installation, with Filmoarc projection units which, though mounted on a wheeled stand and therefore technically in the semi-portable class, it is planned ultimately to use as fixed units in a projection-room dedicated principally or exclusively to large-screen 16mm. projection.

20th-Fox Pioneer

One of the first, if not actually the first of the major studios to put 16mm. to use for testing was 20th Century-Fox. There Supervisor of Photography Daniel B. Clark, A.S.C., a long-time 16mm. enthusiast himself, has pioneered the use of 16mm. color tests for nearly two years. Speaking of his studio's use of 16mm., he says, "For the purposes

tests, we balance our lighting fully as carefully for the 16mm. Kodachrome as for 35mm. Technicolor. As has several times been pointed out in articles in THE AMERICAN CINEMATOPHIL, we at 20th Century-Fox have found it most efficient to adhere to rigid standards of key-light intensity.

"When the problem of Kodachrome lighting first came up, experiments were made until we determined the correct key-light level—as measured by the G-E meters with which the studio supplies all its directors of photography—to give us the desired results in Kodachrome. From this correct starting-point, the director of photography making the test can thereafter light the shot as he sees fit."

9,000 Feet Shot

During the period this studio has been using 16mm. Kodachrome for testing, they have (up to December 15th, 1940) exposed about 9,000 feet of Kodachrome. Since one foot of 16mm. is equivalent in screen time to 2½ feet of 35mm., and since the 16mm. tests are usually shot at the 16-frame-per-second silent-picture speed, while 35mm. tests are made at 24-frame sound speed, this footage is equivalent to some 33,750 feet of 35mm. Technicolor. The saving in film-cost alone is considerable when you figure Technicolor at an average of 33 cents per foot, and 16mm. Kodachrome at around 8 cents per foot. When the differential in screen-time and footage is taken into consideration it works out to a matter of reducing the cost of color tests from 33 cents a foot to the equivalent of slightly over 3 cents a foot! No wonder some experts (not Clark)

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Filming a scene in Brazil's Cinedia Studio. Note native-made blimp on Mitchell Camera. Photo by William B. Larsen.

SOUTH AMERICA MAKES MOVIES

By CARL FREDRIK NELSON,

Director-Cinematographer,
Producing Director of
films in Argentina and Chile.

TWO and a half years in South America, and an intensive study of the film industries there, should enable a fairly authoritative report of film production matters.

Having accepted an assignment as "Director Tecnico" to set up the equipment and organize the production staff for a new Argentine producer, I sailed for the land of the Gauchos in the early part of 1938. The leisurely itinerary of the ship enabled an opportunity to study something of the film industry in Brazil. Then on to Argentina where I found my erstwhile employer to be among the

missing. However, I soon obtained a very attractive position as production supervisor on two feature-length films. Having completed these, I left for home, by the way of the Pacific coast. Stopping in Santiago, an offer to produce and direct films in Chile, was made to me. After I had produced six films, my homeward journey was continued, and concluded.

Stopping off in Brazil, I found that no feature films were being produced at the time. Only the "compulsory" shorts were being made. Under Brazilian Law, each theater must show a

minimum footage of native product. During the projection of these films, the audiences regard it appropriate time for intermission, going to the lobby for a smoke. I was interested in seeing what these native films were. It appears that the usual practice of the native producer, of which there are about twenty, is to set up his camera in the middle of any street, and just crank away the required footage, come what may in front of his lens. He knows that he will sell it, or rather that the theatres must buy his film. Of these is the greater part of the Brazilian film in-



Scene from the historical production "Amalia," photographed by John Alton, A.S.C., for Argentina Sono-Film Studios, Buenos Aires.

dustry. However, there are a few honest and conscientious producers who are trying to produce better films for their country.

Much credit is due them for fighting a hard battle against the lackadaisical attitude of the others. I was told that there is a studio in Sao Paulo, but it was closed while I was there. Not much chance in Brazil, so on to Argentina.

Argentina has about ten or twelve legitimate film producers, and a host of "Penny Ante" artists who make a lot of noise about the great films they are going to produce. After they have sold a few shares of stock, they quietly disappear. Yes, South American countries as well as Hollywood, have their share of promoters and grafters!

In and around Buenos Aires, there are about nine honest to goodness studio units, where films can be produced with not too many difficulties. One of the more important is Lumiton with three stages, their own built sound-recording equipment, including the microphones and the light modulator. They have also built their own laboratory developing machines, and do all their own work on the films from start to finish. They also have background-projection equipment.

Sonofilm also has three stages, with RCA equipment. They send the film to a service laboratory for processing. For several years John Alton, A.S.C., was Sonofilm's chief cinematographer.

Pampa Films has two stages, with native-built sound equipment using an Eric Berndt galvanometer. They also send the film out for processing. Bob Roberts, who did trick work in Hollywood some years ago, does some of the camera work for Pampa.

S.I.D.E. has two stages. The owner of these studios, Alfredo Marua, was formerly in the phonograph-record business, so found it a very short jump to

the sound picture business. A capable technician, he built the sound equipment, also using an Eric Berndt Galvanometer. They have their own laboratory. There are also a number of single-stage units, of which I may be safe to say that Estudios San Miguel is about the best-equipped studio in South America. For sound recording, they have one of the latest RCA studio units equipped for PP recording. The laboratory has one of Art Reeves' developing machines, an Eastman IIB sensitometer and all other equipment necessary for strict control.

When I was there, Reggie Lamb, formerly of Consolidated, was Lord High Commissioner there. His lab building is completely air-conditioned. The studio has its own electric generating plant powered by several Diesels. The complete Mole-Richardson lighting equipment is fed with 110 volts DC. All other studios use the 220 volt 50 cycle current from the public utility lines.

The local Mitchell representative, Carl Seidel, has a Mitchell sound-recording unit, mounted in a four-wheel-drive truck, together with his Mitchell NC camera equipment, for rent. There are other single stage units with native-built sound equipment. Most of these sound equipments use the aforementioned Berndt galvanometer.

The French DeBrie Super-parvo dominates the camera equipments; there are sixteen or seventeen DeBrie units. There are three Mitchell units, and two Hollywood-manufactured abortions that had better remain anonymous.

There are also a few Bell & Howells, some 100-foot DeBries, and a scattering of Eyemo cameras that get some occasional use. Since my departure from Buenos Aires, I hear that another studio, consisting of several stages, has been completed. At this writing I am unable

to say what facilities and equipment they may have. Their plans, if they were carried out, should make this one of the better equipped studios.

Of the four service laboratories, the "Laboratorios ALEX" is the largest. With their battery of ten DeBrie developing machines and Bell & Howell continuous printers, they do most of the processing in Argentina. About a year ago, they installed one of the DeBrie Super-Super-Super trick process printers. Just press a combination of buttons, and the completed film rolls out at the other end—almost!

Some cartoon work is done by Christiani, who has also installed a small laboratory. I should say that he has renovated his laboratory with some up-to-date equipment, for he has done laboratory work for many years, specializing in superimposed title work on foreign language films.

At the time I was there, the German Agfa film was used to practically the exclusion of all other materials. We were about the only studio using American Kodak stock, as long as it lasted. Due to trade difficulties between the United States and Argentina, importation of United States materials was unofficially restricted, so we were forced to use the German Agfa until the Kodak representative succeeded in importing some English Kodak negative stock, which we found to be just as good.

At the start of the war, the Agfa agent took inventory and found sufficient stock for a year of normal demand. How it is now, I cannot say.

The administrative organization, or rather lack of organization, is worth some mention. Production is done under the European system, where the director is king. He has the first and last word. Everyone awaits his decision. A scene is made when he decides to make it. A set is built when he orders it built, and not before.

Most of the directors, writers and actors are active on the stage of Argentina, or their earlier training was in the theater. Therefore the films show the stage technique. An abundance of dialogue with very little movement.

An Argentine director with originality is a rarity. Copying is the average director's greatest accomplishment; he is usually an avid subscriber to every fan and trade publication from all over

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Native-made blimp and mike-boom used in Brazil's Cinedia Studio. Photo by Wm. B. Larsen.



CAMERA DEPARTMENT GLIMPSES

I: Warner Bros. Studio

THE manifold activities of a major studio's photographic department are as bewilderingly kaleidoscopic as a modernistic photomontage. Sensing this, montage-expert Charles Woodley of Warner Bros.' still laboratory assembled the multi-composite photo reproduced above. It shows some of the activities and personalities of the photographic department of Warner Bros.' Studio, where the genial E. B. (Mike) McGreal is head of the combined camera and still departments.

While space unfortunately does not permit complete identification of all the personalities and scenes included, we'll start the game of "what can you see in this picture" by naming a few of the

more prominent ones. At the upper left, smiling, is camera-chief McGreal. Directly below him is Director of Photography Charles Rosher, A.S.C., with L. William O'Connell, A.S.C., below him to the left. Slightly to McGreal's right, contentedly puffing his inevitable pipe, is Tony Gaudio, A.S.C.

At top center is James Wong Howe, A.S.C., surrounded by his crew, with Sol Polito, A.S.C., and his staff directly below. In the lower right-hand corner, Sid Hickox, A.S.C., sits in front of his camera watching a scene. In the extreme corner Arthur Todd, A.S.C., and Ted McCord, A.S.C., compare exposure meters. In the lower left-hand corner, Ernest Haller, A.S.C., can be found sit-

ting at the right of his camera.

Other notable photographic personalities shown in the picture include the many outstanding Warner production and portrait still photographers, and the many unsung men and women who keep the cameras running and develop, print and enlarge the stills. Glimpsed in some of the long-shots are pictorial peeps into the camera and dolly storage rooms, 35mm. loading-room, test-darkroom, etc., and the various still laboratories in which stills are developed, printed and enlarged, the special miniature camera laboratory, the clerical offices, etc. We hope this will be the first of a series of glimpses of major-studio camera department activities.

THROUGH the EDITOR'S FINDER

NEARLY twenty years ago, a hard-boiled newsreel cameraman in a middle-western city took a hopeful young 35mm. cine-amateur under his wing, and began the thankless task of licking the raw young cub into a cameraman. Among other pieces of well-remembered advice was this: "Son," he said, "out in Hollywood the studio cameramen publish a magazine called THE AMERICAN CINEMATOGRAPHER. If you want the real facts on how to make movies, read it. It's the goods!"

Today that same youngster, now older, and himself a member of the A.S.C., takes office as Editor of THE AMERICAN CINEMATOGRAPHER. Starting out in his new post, those words of his cinematographic teacher come again to mind. Realizing how much dependable movie-making information meant to him in his early years, and how much it has meant to others—professional, semi-professional and amateur—with whom he has talked or corresponded during his eleven years of active association with this magazine, he starts his new work as Editor with a pledge that today, more than ever before, THE AMERICAN CINEMATOGRAPHER will be dedicated to bringing the facts of movie-making to its readers throughout the world. Published as it is in the center of the world's movie-making, sponsored as it is by the American Society of Cinematographers, rightly termed "the camera-masters of the world," this magazine is in a unique position for serving movie-makers—professional, semi-professional and amateur alike—by bringing them the latest and most authoritative facts on making movies. To that end it was founded. To that aim, it has for twenty years adhered. To that ideal its future policy is dedicated.

AS the time for the Academy Awards comes near again, we can't help remembering a note written us by Academy Secretary Don Gledhill last spring, in which he commented that, thanks in some small part to an Editorial written in another publication by this writer, the Awards Committee had gone on record as recommending that a regular Award (as differentiated from the previous "special" Awards, which could be bestowed or withheld at the Committee's pleasure) be established for special-effects cinematography. This, he stated, was the first official step in procedure which would automatically result in the creation of such an Award for the following season. That season is now here—and we hope the Committee's recommendation has been put into action by the Academy's governing body.

For today such an Award is definitely needed. To an increasingly great extent

modern productions owe much of their dramatic and economic success to the skill of the special-effects cinematographers. Almost every production that comes out of Hollywood's major studios embodies some proportion of process-shots. Some owe their economic practicability to this process, which successfully brings to the screen scenes which if filmed by conventional methods would have been too dangerous, too difficult or too costly to be filmed on any commercial basis.

In at least one recent release a noteworthy outdoor epic was filmed—thanks to the unsung efforts of the various photographic process specialists—without making it necessary for the troupe to travel farther from the studio than the back-lot ranch. The Director of Photography on that picture has, in fact, remarked to the writer that that production could not have been filmed on the budget and schedule available for it without the efforts of the special-effects staff. As it is, that production is a money-maker. Without the special-effects department's economies, the production—if filmed at all—would have been so costly it could not hope to show a profit under today's economic conditions. Add to this the fact that the special-effects shots are eminently convincing on the screen, and you reach the conclusion that the special-effects men have a really worthwhile achievement to their credit.

But if the Academy makes such an Award, we hope that they will bestow it, not for an achievement in obvious "trick" photography—though there have been several highly meritorious achievements of this nature during 1940—but for the less spectacular achievements which give modern process work its real value. Admittedly it takes great skill to turn out a "trick" production. But it seems to us that it takes even greater skill to turn out process-shots that blend in perfectly with conventional scenes—that don't seem at all out of the ordinary to the lay viewer when screened. And it's those shots that really pay off: they are the ones that enable the rest of us to make pictures which could not be made profitably otherwise. They're the shots that help make money for our studios—and in doing so, make jobs for scores of other men and women who mightn't be working otherwise. Aren't those the kind of process-shots that really deserve the Award?

JUDGING by some of the pictures we've seen previewed lately, a new and welcome trend in cinematography is making itself felt. For many years, as panchromatic film grew faster and faster, the results on the screen have grown softer and flatter. At the start,

this was undoubtedly a desirable thing, for we all remember how unpleasantly contrasty the pioneer pan emulsions were, and how cinematographers and laboratory men alike fought its excessive contrast. But it was carried too far. In too many instances, our screens became ultra-soft masses of indeterminate grays, with neither clean highlights nor full-bodied shadows. We were using only a restricted portion of the full gradational scale.

But during the past few months, several cinematographers have been making a definite change in their photographic methods. They have been lighting for a more normal contrast—a more complete gradational scale. The result on the screen is eminently pleasing. With a wider gradational range with which to work, these men have obtained richer and more normal visual effects. They have had a more abundant tonal range with which to paint their pictures. They have obtained, too, an illusion of increased definition, and enhanced realism. After viewing a few productions photographed in this manner, one can't help feeling a bit unsatisfied at seeing a more conventionally handled film, with its flatter, grayer tonal scale and softer definition.

Looking over the standards of modern still photography as exemplified in the better picture-magazines, we've an idea this contrastier treatment is well in step with public taste. Of course it is something which can only too easily be overdone, but done with the skill of which Hollywood's Directors of Photography are capable, it should play a worthy part in making modern audiences feel more satisfied when they go to the movies.

THE other evening we were privileged to be present at a showing by Edward Weston, the noted still photographer, of some of the photographic studies of the West which he made for the Guggenheim Foundation. It was a memorable experience: you may not always agree with Weston in his choice of subject or treatment, but you can never deny that he stamps each print with the impact of a vigorous and unforgettable personality. You cannot deny, either, that whether or not you agree with his choice of subject, the result is always a picture in the truest sense.

During the evening, Weston made a remark that summarizes one of the basic facts of photography. "You can teach almost anyone the technique of photography," he said, "but you can't teach them the art of seeing. And if your eye can't see a picture before the exposure is made, no amount of mechanical skill can make the result a real picture."

PROPOSE STANDARD METHOD OF DETERMINING SPEED OF FILMS

By M. E. RUSSELL,

American Standards Assn.
Committee on Photographic Standardization

Editor's Note: The problem of arriving at a standard system of rating the speed of photographic materials is a complex and important one. For this reason we feel that the following communication from the influential American Standards Association deserves the attention of all photographers. It should be borne in mind that the present proposal deals only with products for still photography; the application to motion picture films will undoubtedly be worked out later in cooperation with the Association's Committee on Motion Picture Standardization, of which the A.S.C. is a member.

THE American Standards Association is now publishing a proposed method for determining photographic speed of roll film, film packs, and miniature-camera films. The method was drawn up by the committee on photographic standardization (Z38). The method is being published for trial and criticism for a period of approximately one year, at the end of which time it will be considered for adoption as an American Standard. If it is finally approved as an American Standard, it is expected that it may be used as a basis for recommended exposures for picture-taking and for assigning speed numbers to films.

The proposed method for measuring speed is built about the following concept:

Photographic Speed is to be considered as inversely proportional to the minimum camera exposure which a negative material must receive in order that an excellent print may be made therefrom.

This concept implies that speed can be measured by making the best possible print from each of a series of negatives (negatives which differ only in the exposure they have received) and then deciding by observation the minimum negative exposure that will lead to an excellent print. Such a concept of photographic speed seems so simple and straightforward that one might wonder

why it had not been adopted years ago. The answer is that the making of picture negatives and prints to determine speed is a very unwieldy process. Besides the many difficulties in obtaining negatives properly exposed using a certain type of subject and lighting, a very large number of prints must be made and their quality judged by a large panel of judges making a multitude of observations.

Numerous systems capable of laboratory control have been proposed for measuring speed during the history of photography and several of them have enjoyed considerable popularity. Each of these systems has been designed to give results quickly and simply and with good reproducibility. Unfortunately none of them gave results which necessarily agreed with picture-taking practice. Often the discrepancy between the calculated results and those obtained by actual picture taking was so serious that photographers used the term "practical speed" to indicate that in practice the speed

would be found to differ significantly from that obtained by the laboratory method.

Since the success of any method of determining photographic speed depends upon the ability to operate it with reasonable rapidity and with a high degree of reproducibility as well as agreeing with actual picture tests, it was necessary that a laboratory method be found from which the results would be the equivalent of picture taking. Within recent years such a method has been evolved in the field of sensitometry, and it is this method which is used in the proposed standard. It has been found to give excellent correlation with picture-taking practice and at the same time to be a satisfactory method for laboratory manipulation.

The method consists of plotting a characteristic curve (that is, density vs log exposure) of the material being tested for a particular set of exposing and developing conditions and then determining

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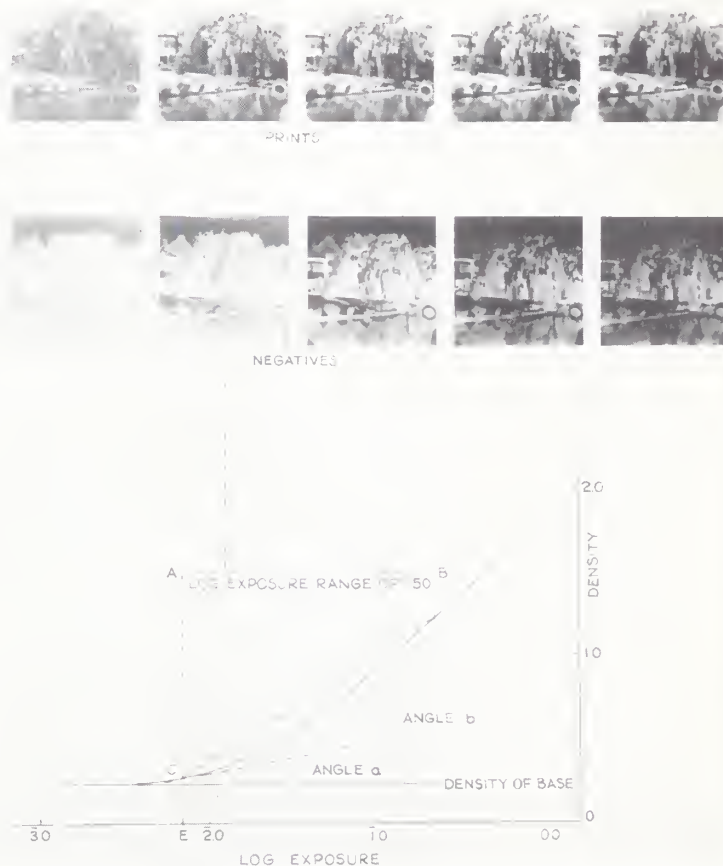


Figure 1

A.S.C. on Parade

Dewey Wrigley, A.S.C., draws the most unusual camera-assignment to date. It appears a tropical hurricane figures prominently in Cecil De Mille's forthcoming "Reap The Wild Wind"—and Dewey has been elected to reap it. He has volunteered to take a Technicolor outfit to the Bahamas during the coming spring equinox, when that part of the world harvests its best hurricane crop, and film one in color as it goes by. He'll be protected by a concrete pillbox firmly anchored in the shallows near Nassau. According to trade-paper reports, the studio plans to recognize his heroism with the highest single day's pay-check yet doled out to a cinematographer—\$1000 if he gets the shot! Here's luck, Dewey!

L. William O'Connell, A.S.C., drew December's whackiest assignment. His boss, Producer Jack Warner, is a well-known horse-fancier, and it appears that one of the Warner stables' prize mares was anticipating a blessed event. So Connie and his crew camped out for four days at the ranch, to be on hand to record the arrival of the new champion on film. Yes, he did it. Maybe we ought to call him Dr. O'Connell, D.V.S., now!

After seventeen years at one studio, Victor Milner, A.S.C., is leaving Paramount January first to freelance. With an Academy "Oscar" and credits for an imposing number of Paramount's top photographic jobs to his credit, Vic ought to be in demand among producers who want their pictures brought to the screen with the inimitable Milner quality. But it won't seem quite natural to us to visit the camera table at the Paramount commissary and not find Vic in his usual place.

Ray June, A.S.C., draws the assignment for directing the photography of MGM's "Ziegfeld Girl."

Eddie Linden, A.S.C., takes time off from his hobby of oil painting (he's good at it, too!) to photograph Monogram's "Gun Smoke Valley."

William Skall, A.S.C., had charge of the advance-guard which went to Flagstaff, Ariz., early in December to Technicolor MGM's "Billy The Kid." He was soon joined by his Co-Director of Photography, Len Smith, A.S.C.

Flu victims during last month's epidemic included Joseph Valentine, A.S.C., Leo Tover, A.S.C., Tony Gaudio, A.S.C., and Victor Milner, A.S.C. Pinch-hitting for Tover on Paramount's "I Wanted Wings" was Dewey Wrigley, A.S.C.;

Ernie Haller, A.S.C., took over Warners' "The Great Lie" for Gaudio and Theodor Sparkuhl, A.S.C., performed a similar office on "Lady Eve" while Milner battled the flu bugs.

A.S.C. Associate Member Ted Curtis, Vice President in charge of Eastman's motion picture film sales, is on a year's leave from his desk in Rochester. As Major Curtis he'll be attached to the office of the Chief of the U. S. Army Air Corps as a special adviser. During the last war, Ted was one of America's few honest-to-goodness air aces. No wonder Uncle Sam wanted him back!

John F. Seitz, A.S.C., and Ralph Hammeras are co-producers in a new firm making "soundies" for the 16mm. eye-and-ear juke-boxes.

Sid Wagner, A.S.C., goes a-Technicoloring with the assignment to handle special sequences of MGM's "Billy The Kid."

The sympathies of the A.S.C., are extended to Sol Polito, A.S.C., on the loss of his mother, who died December third, at the age of 80.

Jackson J. Rose, A.S.C., received the camera assignment on MGM's short, "Immigration."

Oliver Marsh, A.S.C., has been assigned to direct the photography of MGM's "Rage In Heaven." There may be rage in Heaven—but not in the projection-room where the femme stars of the film will go into raves over Ollie's photographic treatment of them!

Milton Krasner, A.S.C., is busy at work lensing Universal's contribution to the draft cycle, "Buck Privates." As one of the younger generation of cinematographers, wonder if Milt is near enough the dangerous age so the assignment might be classed as preparation—?

The trade-papers claim Howard Hughes' production "The Outlaw" lacks name-appeal. We'll bet the camera-minded public won't agree with that when they learn Gregg Toland, A.S.C., has been signed as Director of Photography!

Indicative of the importance the MGM biggies attach to their forthcoming "Dr. Jekyll and Mr. Hyde," they've announced that Karl Freund, A.S.C. and Paul Vogel, A.S.C., have been assigned to work with make-up chief Jack Dawn on an extensive series of make-up tests. We assume

they're trying to find "Mr. Hyde," who is presumably hiding somewhere in the make-up department.

Still taking bows for his magnificent job on "The Letter," Tony Gaudio, A.S.C., has been assigned by Warner Brothers to do the same for "Winged Victory."

Lester White, A.S.C., presides over the cameras filming MGM's "Andy Hardy's Private Secretary."

Bert Glennon, A.S.C., draws the assignment of directing the photography of Paramount's "One Night In Lisbon." Incidentally, just before Christmas Bert and the younger Glennon were seen having a perfectly grand time in the toy department of one of Hollywood's department stores. Wonder if Santa brought Bert that electric train he was admiring?

Robert Planck, A.S.C., has been assigned to have photographic charge of "A Woman's Face" for MGM. Judged by past performances, Bob is a cinch to make it look swell.

Ernest Haller, A.S.C., after pinch-hitting for half of Warners' flu victims, gets the nod to direct the photography of "Miss Wheelwright Discovers America."

George Folsey, A.S.C., has been assigned as Director of Photography on MGM's 1941 remake of "The Trial of Mary Dugan." It was previously made as one of the pioneer talkies in 1929. At that time, William Daniels, A.S.C., was in charge of the cameras.

William Daniels, A.S.C., did so well when he moved his cameras across Cahuenga Pass to film "Flotsam" for Loew-Lewin at Universal that he's been retained for a second Universal production, "Back Street." And the way his fellow-workers talk about him and his work is a grand tribute to Bill.

Did you see that recent issue of "Time," with its write-up of the camera profession? It's worth reading, and gives a swell break to the A.S.C. and several of its members. Joe Valentine, A.S.C., says several people have accused him of engineering it, but insists it ain't so. "If I had," protests Joe, "would I have put in that crack about my moustache?" And speaking of national publicity, how about the twin breaks John W. Boyle, A.S.C., drew in "Life" and "National Geographic" with his stills from the Thaw Trans-Asian trek?

W. Wallace Kelley, A.S.C., is busy knocking wood these days. Wally is one of the few who escaped the flu.

John Alton, A.S.C., has just finished another "Dr. Christian" opus for RKO. Looking back at John's record with this series, we'll bet John doesn't eat apples!

PHOTOGRAPHY OF THE MONTH

CHAD HANNA

20th Century-Fox Production. (Technicolor)

Directors of Photography: Ernest Palmer, A.S.C., and Ray Rennahan, A.S.C.

Anyone who still believes that color should be lighted flatter and with less imagination than black-and-white should make it a point to view "Chad Hanna," and see what two masters of the camera can do when they set out to film in Technicolor a script demanding a lot of effect-lightings. To put it simply, the greater part of this film's footage necessarily had to involve effect-lightings—interior and exterior. They are handled with all the freedom, imagination and artistic feeling that would be expected in a monochrome production. The fact of color never appears to have exerted any restraining influence, but instead adds definitely to the dramatic and pictorial value of the camerawork.

As a matter of fact, some of these effects seem to have been both lit and printed to a higher contrast than would be the case in monochrome. Far from being objectionable, this higher contrast seems definitely to add to the realism of the scenes. In some of the earlier exterior night-effects, it must be admitted, the moonlight seemed perhaps a trifle too aggressively blue; but in the later night exteriors, this was not the case. In general—indoors and out—the use of deep, full-bodied shadows as forceful elements of the composition was worth a million of the gutless semi-shadows with which color scenes are so often afflicted.

The forceful modelling of players and sets was noteworthy. So, too, were some of the severely simple, strongly key-lit shots of Dorothy Lamour, while in a more conventional manner, the diagonally composed close-up of Linda Darnell in bed was one which should certainly have earned the cinematographers that young lady's unending gratitude. In general, the flesh tones were excellent, with the unfortunate exception of some of Henry Fonda's earlier scenes, in which he appeared rather too pasty-faced to fit his character. A darker make-up would un-
deniably have helped; probably it did, for this flaw disappeared in later sequences, and his visual characterization became increasingly robust.

In addition to the more obvious effect-lighted sequences, the co-directors of photography are to be warmly congratulated on their handling of such other scenes as the day effects under the circus-tent—with a "hot" exterior background furnishing a distinctly tricky light-balancing problem—the many process-shots atop the circus wagons, and the various day and night scenes of the circus performances. For these, Operative Cinematographer Don Anderson deserves an orchid for executing, even

though handicapped by the bulky Technicolor equipment, follow-shots of such quality as to draw praise even from laymen in the preview audience.

SANTA FE TRAIL

Warner Bros.-First National Production. Director of Photography: Sol Polito, A.S.C.

Directors of Special-Effects Photography: Byron Haskin, A.S.C., and Hans Koenekamp, A.S.C.

Director of Photography Sol Polito, A.S.C., has invested "Santa Fe Trail" with a mounting of crisp, black-and-white camerawork which is eminently satisfying. The print previewed seemed a distinct departure for Fred Gage, A.S.C.'s excellent laboratory in that the usual softness was abandoned for an increased contrast which lent richness to Polito's crisp monochrome cinematography. The gradational scale was excellent, leaning strongly to the virile shadows which Polito used to heighten the robust dramatic effect without at any time losing either the highlights or the intermediate tones.

Polito's filtering of the many exterior sequences was notable, again tending to brilliant high-contrast results without at any time falling into the lurking pitfalls of overcorrection. The action scenes—especially the notable cavalry charge—are most capably handled. The many effect-lightings are also worthy of comment, especially those in the barn immediately following Errol Flynn's escape from hanging, and in the fire sequence that follows.

The Special-Effects staff likewise cover themselves with glory in "Santa Fe Trail." It is hard to believe that at no time during the eight weeks of this film's production did the company go farther afield than the Warner ranch and back-lot. For this, Haskin, Koenekamp and matte-shot painter Paul Detlefsen deserve a world of credit. The many matte-shots in the picture are examples of unusual perfection. The excellent musical score by Max Steiner also does much to add to the dramatic atmosphere of the production, while Film-Editor George Amy's cutting of the fast-moving action scenes likewise deserves praise—and careful study.

Very little can be said about "Santa Fe Trail" on the critical side. About the only important shortcoming to this reviewer's eye was the handling of one short night exterior sequence in which the cavalry rode to the hero's rescue. In this, the pattern of the battery of sun-arcs needed to illumine a relatively large area at night lent a certain note of artificiality, making the technically-inclined viewer wonder why the sequence could not have been filmed in daylight with filters. Otherwise, however, "Santa

Gaudio Tops Preview Poll

Tony Gaudio, A.S.C. captured the approval of Hollywood's preview critics, winning the Award for Cinematography in the Hollywood Reporter's Preview Poll for November for his impressive photographic treatment of "The Letter." Runners-up were Oliver T. Marsh, A.S.C., and Allen Davey, A.S.C., for the Technicolor production "Bittersweet," and Joseph Walker, A.S.C., Harry Hallenberger, A.S.C., and Fayte M. Browne, A.S.C., for "Arizona."

Art Direction entered the Poll for the first time. It will be a permanent feature from now on. The first winners were Cedric Gibbons, John Detlie and Merrill Pye for the lavish sets in MGM's "Bittersweet." Runners-up were Carl Jules Weyl for "The Letter" and Lionel Banks and Robert Peterson for "Arizona."

"Fe Trail" is a picture which should be on every photographer's "must see" list.

FLIGHT COMMAND

Metro-Goldwyn-Mayer Production. Director of Photography: Harold Rosson, A.S.C.

Aerial Photography: Jack Smith, A.S.C. Special-Effects Photography: Harold Marzorati, A.S.C.

"Flight Command" is an impressive example of cinematographic versatility. Director of Photography Hal Rosson, A.S.C., for example, has in the past been responsible for more than a few films which were notable examples of delicate cinematic pictorialism—"Garden of Allah" and "The Scarlet Pimpernel" come to mind among them—but here his work takes an abruptly different turn, keyed to a mood of extreme visual virility, as suited to the robustly masculine story. Yet his camerawork is perfectly fitted to the story requirements. Airplane hangars, Navy locker-rooms, and the like are scarcely subjects for glamorizing photography, but Rosson's camera seems perfectly at home in them. In the few sequences in more conventional settings—those in the Squadron Commander's home, in a swank cafe, etc., where the story's feminine elements appear, Rosson's style changes just enough to be in key, yet without ever completely losing the undercurrent of strength the action demands.

In the latter part of the film, some of the most significant action is put over in a sequence of extreme big-head close-ups of the stars which deserve particular praise—and study—as examples of unconventional and very forceful composition.

In the aerial scenes—of which there are many—we find another example of camera versatility. The man responsible for them, Jack Smith, A.S.C., has never

(Continued on Page 32)



man organization—why not make a real production unit out of it? That meant at least a sound engineer, a photographic expert to share the camera and laboratory work, and a combination script-girl and office force.

If all of these four cinemaniacs could “double in brass” enthusiastically the result should be the nucleus of a pretty comprehensive 16mm. producing organization. All three of them alternate on such details as editing film, writing scripts, dialog and narration, and similar tasks.

They make their pictures with the sort of equipment most of us merely dream about. The starting point is a Bell & Howell Filmo 70-DA. This is merely the utility camera for quick action. The bulk of the work is done with a Berndt-Maurer 16mm. professional camera, while the sound is recorded separately with a Berndt-Maurer 16mm. recorder.

Before direct 16mm. sound work became practical, the MCH organization equipped itself with a standard 35mm. Mitchell and an Eyemo. But latterly the quality of direct-recorded 16mm. sound and of 16mm. negative-positive

EVER since Dr. J. S. Watson, Jr., A.S.C., acknowledged as America's foremost amateur filmer, who made the sensational “Fall of the House of Usher” and “Lot,” deserted the Simon-pure ranks to produce the equally spectacular “Eyes of Science” for Bausch & Lomb and “Highlight and Shadow” for Eastman Kodak, the mythical championship of America's amateur filmers has been vacant.

This has by no means been because there were no contenders for the honor. Duncan Little, with his “Movie Parties,” has certainly captured the position of the country's premiere amateur exhibitor.

And such sturdy contenders as Randolph Clardy, the first and only American two-time winner of the American Cinematographer International Amateur Movie Contest; C. J. “Little Sherlock” Carbonaro, and others that could be named until they succumbed to the lure of cash-and-carry moviemaking, were neck-and-neck for first honors.

Pressing them closely has been a field teeming with talented contenders. But it takes a rare combination of skill, prolificness and the possession of unusual physical facilities to hold top honors.

All of which is by way of introducing Mark C. Honeywell of Wabash, Ind., and Miami Beach, Fla.—a front-rank contender for the championship! Mark Honeywell makes pictures—good ones. What's more, he does it on a scale we've never before encountered.

We've heard of a few individual amateurs who have experimented with 16mm. sound-films. We have also heard of a few clubs—mostly in England—which maintained something which might be called a substandard studio.

But Mark Honeywell maintains and operates what, insofar as we can deter-

Is He the No. 1 Cine-Amateur?

By William Stull, A.S.C.

mine, is the only individually owned, strictly amateur 16mm. studio in the world!

In the Honeywell Studio 16mm. sound-films and talkies of all kinds are made: comedies, musicals, news-films and educational. And they are made directly on 16mm., and strictly for pleasure. Five of those films are on this writer's desk as he writes this; any one of them good enough for professional release. Yet Honeywell has never attempted to commercialize on his filming!

The MCH Studio is the logical development of an industrialist's addiction to moviemaking. Many years ago Honeywell found himself incurably afflicted by the cinematic germ. Soon, it appears, he realized that no one man—especially if he was a busy executive like Honeywell—could hope to make all the pictures Honeywell saw crying to be made.

About this time, the earliest 16mm. sound outfits made their appearance, and Honeywell learned that making sound films well is a job for at least two men—one to handle the camera, the other to take charge of sound.

And since sound meant at least a two-

picture have been such that virtually all the recent MCH productions have been made—sound and picture alike—directly on 16mm. film.

Professional practice is followed, however, in using “double-system” sound, in which sound and picture negatives are made on separate films, and not combined until the final editing.

Some work has been done in Kodachrome sound-films; but the difficulties of “duping” the color picture to form the final, composite sound-print have tended to keep the majority of MCH production on a monochrome basis.

For this, negative-positive, rather than reversal film is used. The productions screened for this writer were photographed on Agfa Supreme 16mm. negative film, developed in Berndt-Maurer's Precision Laboratory in New York.

It has for many years been my contention that until our 16mm. laboratories handled substandard negative in the same manner as fine-grain 35mm. minicam negative is developed, none of us would get out of 16mm. negative-positive all that either the film manufacturers or we ourselves put into it.

Honeywell's films prove this. With the exception of a few tests made some years ago by the writer, and developed in ultra fine-grain diamine-type minicam developers, they are the first examples I have seen of 16mm. negative-positive which have visually lived up to the claims made by their manufacturers.

These, quite literally, can hold their own with either reversal originals or the best reductions from 35mm. negatives. Several of them were shown at meetings of the Los Angeles Cinema Club; and on a 12-foot screen they looked, to speak conservatively, fully as good as the reversal films which rounded out the program.

As a rule the MCH group winters in Florida, and the spectacular attractions of that state provide a background for many of their films. Several, for instance, have been made under water at the unique Silver Springs resort, where so many professional pictures, including not only Grantland Rice Sportlights and other short subjects, but much of MGM's feature, "Tarzan Finds a Son," have been filmed.

As Honeywell and his associates do it, 16mm. submarine camerawork is fully as effective as its more familiar 35mm. prototype. Silver Springs is unique in the crystal clarity of its water; and enterprising residents have taken advantage of this and have provided two boats specially built for submarine photography.

These boats are by no means the ordinary glass-bottomed affairs familiar at so many seaside resorts. Instead, each has an extensible, tubular well in its bottom to house the cameraman and his equipment. The well provides sufficient room for a full-sized professional camera and its operator, with a plate-glass window through which the lens can scan the immersed action.

Since the top of the well is open to the air, ventilation is not a problem; there is no need of cumbersome diving suits or working under compressed air. The boat is moved into position, and the camera-tube extended to the right depth. Then the desired action is filmed. It's as simple as that!

But it is not only in spectacular things such as this that the Honeywell group exhibits movie-making skill. They give a professional touch to subjects of a far more routine nature, doing it in a way that makes them genuinely entertaining even to audiences who are not personally interested in the people and things shown.

For instance; Mayor John Levi of Miami Beach owns a dog—a little Boston Bull—and the dog's hobby (if a dog can have a hobby!) is tearing the husks off from coconuts.

Now most of us, if confronted with a subject like that, would confine our picture to a few scenes—at best not more than a 50-foot roll—of the dog actually de-husking a coconut.

After a screening or two we'd realize that while we had some shots of a novel

Mark C. Honeywell. On opposite page the MCH Studio is seen at work.



action, we didn't have a real picture. So the roll would find its way to our surplus-film cupboard and oblivion.

But Honeywell made a production from just that idea! To be precise, they made a talking comedy a full 400 feet in length—and one packing enough entertainment value to interest any audience.

They began by making the fact incidental to story value. The first sequence plants the thought of a contest; a visitor twits a Floridian over Florida's neglect of the coconut. The native in defense points to the difficulty of getting the nut out of its tough, fibrous husk. To all of which the visitor replies scathingly, "That's nothing! Why I know a little dog that thinks nothing of tearing a coconut out of its husk, just for fun!"

The sequence ends on the "show me" note, as the two agree to stage a "battle of the century"—Skippy Levi vs. Kid Coconut!

The rest of the picture carries this idea to fruition, with all the trimmings. Timekeepers—referee—prizefight managers—ringside crowd—all are evident, beautifully burlesqued. Even radio is present in the form of an announcer—"Ted Confusing"—who carries the burden of sound track narration.

The basic action of the little dog,

tearing boldly at a coconut almost as large as he is, is sufficiently spectacular to give this elaborate framework a good excuse for occupying the screen.

But it is the framework itself—the deft burlesquerie of the principals (especially "Kid Coconut's" manager) and the clever parody of a thousand actual fight films and broadcasts, that makes audiences like the picture.

When it ends, with "Kid Coconut" lying stark and nude on the grass, the pup croaking hoarsely into the mike, "Hello Mom, I moidered him!", and the luckless adherent of the coconut being forced, willy-nilly, to pay his bet and jump into the bay, one feels that the film has been all too short.

Thus it is not only Honeywell's remarkable facilities and organization that entitle him to renown, but also the quality of his films. Admittedly it is something extraordinary to have such an array of virtually professional 16mm. and 35mm. equipment, to say nothing of such professional accessories as studio-type lighting equipment, microphone-booms, camera dollies, etc., and a fully equipped laboratory for making and developing prints, titles, and the like.

But what really counts is having the cinematic skill and ingenuity evidenced by Honeywell and his cinematic confreres.



How To Use THAT CHRISTMAS CAMERA

By WILLIAM STULL, A.S.C.

EARLY Christmas morning my phone rang. At the other end of the wire was my friend Joe, who had just discovered that Santa had brought him his very first movie camera. That was simply swell: Joe had wanted a movie camera. He had devoured tons of alluring ads that told all about the fun of making your own movies, and how easy it was. He looked forward to the pleasure of having movies of his family, his vacations, and everything else.

But he was perplexed. He'd never used a movie camera in his life. And now that he had one—how the heck was he going to use it? What could I tell him about operating his camera, and about making movies?

Joe wasn't alone in his Christmas perplexity. At roughly the same time several hundred thousand other equally surprised citizens were asking themselves—and their friends—the same questions. It is in their interest that this little excursion into the funda-

mentals of moviemaking is carried on here.

My first advice to Joe—and to anyone else who finds himself gifted with a new camera—was to study the manufacturer's instruction book before doing anything else. It's a strange commentary on human nature that a man will pay as much as several hundred dollars for a piece of unfamiliar equipment—and then ignore the expert instructions provided to tell him how to load and unload the camera.

Those manuals are written by experts who really know about that specific camera; furthermore, they're usually backed up with pictures that show every operation in detail. Certainly they're worth a few moments' study.

Exposure and Focus

The next problem is exposure; and here again you've got help at your finger-tips. Of course, the safest guide is a good, modern exposure meter. But if you haven't one (and Santa doesn't often bring both camera and meter on the

same Christmas!) you'll find two excellent guides all ready for your use.

Many 16mm. and 8mm. cameras have some form of exposure guide as a permanent part of their cases; in some, it's just under the lens; in others, on the side of the camera. In most cases, it is surprisingly accurate for the beginner. In addition, most film manufacturers pack similar guides with each roll of film.

Just remember, anyway, that those mystic numbers on the lens indicate the relative size of the light-admitting opening at each setting. The smaller the figure, the larger the opening, and the more light that passes through to affect your film. In most cases, each calibration means that the lens is set to admit twice as much light as passes at the next larger numbered setting.

Some cameras have the so-called "universal focus" lenses; others (usually the more ritzy ones) have lenses which must be focused. If you have one of these I'd suggest that at the start, at least, you ignore those focusing calibrations.

With the lenses normally used on 16mm. and 8mm. cameras, if you set the focusing scale on the 15-foot mark (which in some cameras is specially marked in red) everything in your picture will be acceptably sharp under most conditions.

Later, as you grow more accustomed to using the camera and judging distances, you can set the focus precisely for the needs of each shot, and get critically sharp pictures; but for the start, leave the lens at 15 feet—and you'll eliminate one more chance for making mistakes!

Movies Must Move

Now that you're actually ready to take pictures, remember that while for an ordinary still photograph movement is usually taboo, for movies the situation is just the opposite. Movies must move! But—don't take that too literally! It is the subject—the people or things in the picture—that must do the moving; not the camera.

Nine beginners out of ten fail to make this distinction, and wave the camera around, moving it up, down and across the scene—especially across—like a garden hose.

The results on the screen can be incredibly painful; besides, with the camera swishing from side to side that way, you can't get a very clear idea of what the picture is.

"But what," Joe asked, "if you can't get *all* the subject in without moving the camera?" Well, if you move the camera slowly enough, all right; but in most cases you'll have better pictures if you get two or more stationary shots of the various parts of the scene instead.

That brings us to another thing. The camera must always be considered as representing the eye of the audience. Therefore it should be steady, so that the picture on the screen won't be a jitterbug. According to the advertising,

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THE most important single thing in making a film that will prove successful in local, national or international competition is the matter of getting the other fellow's viewpoint. When you analyze almost any picture—yours or anyone else's—which failed to place in competition, almost invariably you'll find its outstanding fault was failure to get the other fellow's viewpoint.

As a matter of polite phrasemaking, we often say that the winning films "pleased the judges"; actually, it is the literal truth, as well. The opposite is just as true—that the unsuccessful films failed because they failed to please the judges.

Too often they are obviously made to please the fellow that made them, and with no apparent thought of the unbiased stranger, who can judge only by what he sees on the screen. To be successful, a picture must take into account the other fellow's viewpoint in subject matter and presentation.

The question of choosing pleasing subject matter is too broad and too obvious to require discussion here. But presentation—which is the most universal weakness—can be corrected in many ways, some of which we can constructively discuss now.

Perhaps the first and most important point in successful presentation is avoiding repetition. When, for instance, a film deals with a trip or vacation, most of us are inclined to dally repetitiously with our "pet shots." We find an attractive scene—a waterfall, a lake, a mountain—and we reel off scene after scene of it from varying angles, with different compositions, filterings and the like.

Just to eliminate argument, let's say they're all good scenes. We ourselves like them; they compliment our photographic vanity. But is that any reason for boring the other fellow with a succession of scenes that are all monotonously alike?

Watching the judging of a recent club contest, I recall hearing an explosively audible reaction from one of the judges as he writhed under such a sequence of pet shots.

"When you've seen one waterfall, you've seen 'em all," he growled. "Why in blazes does this guy have to rub it in?" And he knocked several points off his rating of the film.

The same thing applies to sequences that had to be made under unfavorable weather conditions. If you're traveling you can't control the weather, and often you've got to shoot while you're there, or not at all. But again, why rub it in? To the other fellow, the picture will not only be just as interesting without the bad-weather shots, but will leave an impression of being a better film.

All of which gives us the cue to success: cut your film brutally. When most of us have struggled and worried over making a picture, cutting sharply is often as painful a process as amputating your own arm. It's only human to hate to see those pet shots and those

If you make travelogues—personalize them with people.



Hints On Making A CONTEST PICTURE

By A. L. GILKS, A.S.C.

interesting, if weather-marred, scenes that bring back specific memories of the trip go into the discard. Besides, it seems like an awful waste of good film.

Then, why not salvage the cut-outs, and make two pictures instead of one? The first one—made up of only the best scenes, and cut to the bone—could be for public showing and for the contest.

The other, including the extra shots which proved repetitious in the first film and the weather-marred or more intimately personal scenes that have no proper place in a film for general showing can be made as a purely personal record of the event.

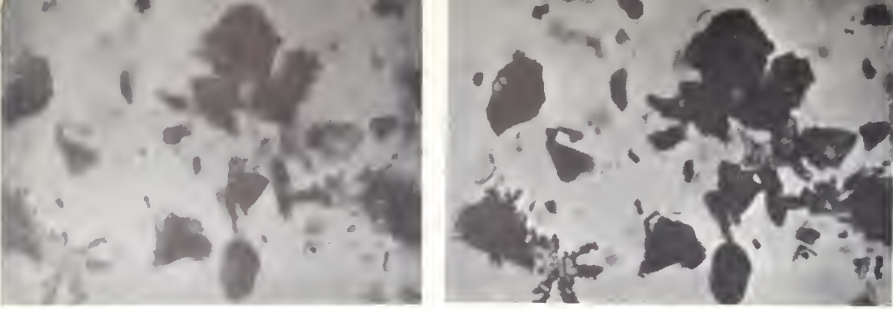
It is a strange thing, but as a rule when one divides one indifferent picture this way, the result is two much better films. Sometimes the idea can be

carried even farther: I recall one entry in a recent contest—a fair-to-middling three-reeler—which with more expert editing could have produced three prize-winning single reels! The film, as it stood, was literally attempting the impossible task of blending three complete and separate films in one.

This matter of cutting applies quite as forcefully to scenario films as it does to travelogues or scenic. But two other factors are mighty important in putting over a scenario film successfully.

First of these, perhaps, is putting over your points completely. In other words, making full use of the possibilities of the scenes. This is vital, for you may have a clever basic idea—but if you don't develop it fully on the screen, the

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Frame enlargements of 16mm. cine - micrographs of uric acid crystals.

MAKING MICRO-MOVIES IN 16MM. KODACHROME

By PAUL R. NELSON

COUPLING a 16mm. camera with a microscope opens up a whole world of new picture possibilities, whether you're a scientifically-minded physician or microscopist, or just another movie-maker on the lookout for something new to shoot. From the pictorial viewpoint, you'll find amazing picture-material in the commonest subjects—a drop of water from a lily-pond—a fly's wing—even a snowflake; one enthusiast spent an entire lifetime making micro-photographs of snowflakes, and in all that time never found two with identical patterns.

From the scientific and educational viewpoint, micro-movies are invaluable. They preserve not only the form but the motion of micro-organisms, and make it possible to show them on the screen in enormously enlarged form to larger groups than could successfully study any other type of micro-picture.

When you couple color to this—via Kodachrome—you've added an element that will make a sensational picture out of the most commonplace subject. Not only does color "make" the picture from the layman's viewpoint: it adds immeasurably to the scientific value medical and biologic experts find in well-made micro-movies.

Making micro-movies requires precision, but it is by no means an overly difficult task for anyone with a fair understanding of either cinematography or microscopy. The first step is of course to choose a camera suitable for making pictures through a microscope. In general, almost any good, standard 35mm., 16mm., or even 8mm. camera can be used. Of these, 16mm. is by far preferable, for it combines moderate operating cost with high technical quality and the widest possible field of classroom and clinical use.

It may be necessary to make some

operative changes in the camera to facilitate its use for some types of micro-cinematography, but these will seldom be of a sort that would affect the camera's use for straight photography. In some types of work a single-frame "stop motion" movement may be desirable for time-lapse and similar studies. In other types of work, large film-capacity or the ability to operate for relatively long periods without winding may be necessary.

It is vital, though, to have a camera which permits direct focusing through the picture-making aperture. The Cine-Kodak "Special" is ideal for this sort of work. Almost equally satisfactory are the various magazine-type cameras when fitted with the accessory focusing magnifiers which can be inserted in place of the regular magazine.

This feature of direct focusing makes it quick and simple to check up on focus, field coverage, illumination, etc., before each shot. Without it, one is all too often working in the dark. With it, you can be reasonably sure of results before the shot is made. The illustrations to this article were made with a Model 121 magazine-type Filmo which, when fitted with an auxiliary ground-glass focusing device, proved eminently satisfactory for the author's work.

Almost any good microscope of standard design will be satisfactory for the micro- part of the micro-movie set-up. Obviously, the better the microscope, the better will be the results. In general, the Bausch & Lomb and Spencer microscopes available in most modern schools and clinics—to say nothing of those used by progressively-minded medicos—will be satisfactory.

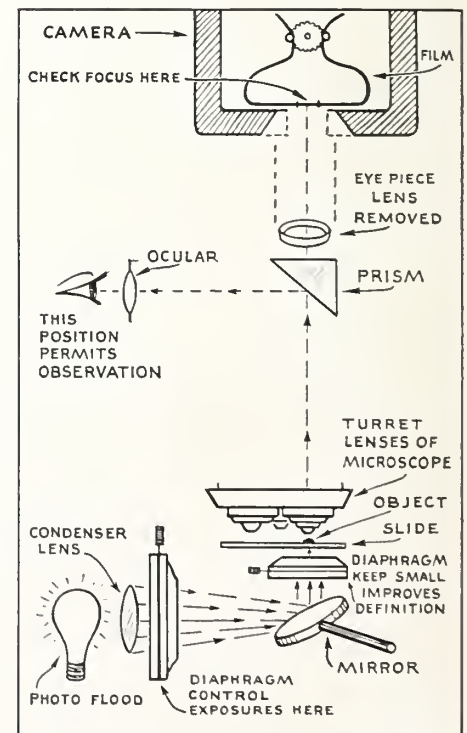
As one ventures into this fascinating work, he is likely to be confronted with the problem of choosing between the monocular and binocular types of micro-

scopes. The binocular type has its decided advantages, especially for those whose camera has no means of focusing directly through the photographing aperture. However, those using the more common monocular microscope can minimize this problem by using the demonstrating eyepiece with which many of these instruments are provided. This eyepiece is fitted with a beam-splitting prism arrangement such that the image may be viewed simultaneously from directly above and from one side.

In either case it will be necessary after the camera is mounted rigidly in place over the microscope to check the focus carefully, both in the camera and through the eyepiece through which the operator will watch what is being filmed. Having checked the focus at both points, the assembly should be so fixed that any focus-changes in the microscope or its ocular will automatically produce the same result in the camera. In other words, things should be set up so that what appears visually sharp through the eyepiece through which you are observing will also be critically sharp at the aperture of the camera.

Most standard microscopes are usually equipped with a three-lens turret carrying objectives of several different focal lengths or magnifying powers. This gives the microscopist a wide range of magnification—rather too wide for the novice micro-cinematographer. Beginners will find it much wiser not to try the higher-powered lenses until they are certain they can obtain passable shots using the low-powered 16mm. lens. And don't think that this will limit your efforts! Such animalculae as the rotifer, the vorticella and even the paramecium can be filmed very satisfactorily with the low-power objective. Later on you

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Schematic diagram of camera and microscope set-up for cine-micrography.

WHEN we view a professional film in Technicolor we are amazed at the effects and results which the cameramen capture in the camera lens. However, with a little thought we can analyze their beautiful work and reach a conclusion wherein we notice that we can film these same results in our own home.

Kodachrome film records all colors just as accurately as Technicolor film, with less effort. Moreover, it requires less light to film with Kodachrome. Fundamentally, then, the professional cameraman works at a greater disad-

Light, in photography, is used for two purposes. The most important use is to obtain the exposure that is desired on the film. The second purpose is to create a visual mood in the picture and to enhance its beauty.

Most of our scenarios are filmed in certain lighting keys to place the minds of our audience in a definite receptive position. If we are filming comedy, the action and story is light and carefree, so we appropriately light our sets and characters with an abundance of light to give a cheerful atmosphere on the screen. Yet this is not the proper type

Forget Flat Lighting When Filming Kodachrome Indoors

By CLAUDE W. CADARETTE
Founder, L. A. 8mm. Club

vantage than we amateurs do insofar as the film element is concerned.

We also know that the professional cannot use filters on his lens for effects, nor can we do it. Any color-filter on the lens would obviously unbalance the rendition of color in the film and give us something we do not want.

If the film elements for professional and amateur filming are the same and neither types of cameras can use filters, what then enables the professional to get beautiful interiors while the amateurs' indoor color-filming lacks the sparkle and lustre that he wanted? The secret, I believe, is in the professional cameraman's use and distribution of his light.

We have been instructed and warned many times to light our subjects and sets with a flat, even distribution of light so that all portions of the scene area have the same exposure. These instructions contend that the colors in the scene or subject create the necessary amount of contrast for separation. This is all very true and it is not incorrect to light for color filming in this manner, yet we don't see this type of lighting on the professional screen.

Such masters of lighting as Victor Milner, A.S.C., Sol Polito, A.S.C., or Ernest Haller, A.S.C., would not distribute light flatly over a set when shooting color film. This is evidenced in Milner's "Northwest Mounted Police" and Haller's "Gone with the Wind." You will notice that all interiors were made with emphasis on highlights and shadows. Although the productions were in color, these cameramen further "painted" their scenes with light just as though they were using black-and-white film stock. If all of these interior scenes had been flatly illuminated, you could film them in Kodachrome and get the same results as the large cameras.

of lighting for dramatic scenarios wherein we must create an air of mystery or sadness. All heavy dramatic scenes should be lighted in a low key to add to the sombreness of the situation. The use of deep shadows is the best method known today, coupled with an over-all low light on the entire scene.

To light your scenes for color filming, use the same methods as you do for black-and-white film. When a scene calls for deep shadows and dramatic lighting, do not expect these results with a flat lighted area. Use your spot-lights and cross-lighting effects as freely with Kodachrome as with Panchromatic films.

Scenes which are lighted for low-key effects are not necessarily scenes which are underexposed. A low key scene may have more lamps in use than if it is lighted in a higher key. In color filming, it is important to keep the subject of interest properly exposed but all other areas of the scene may fall off greatly in illumination. A person sitting by a fireplace should have sufficient light to illuminate the face but the background can be nearly devoid of light. Place only the necessary amount of light on backgrounds to bring out the detail merely for identification.

A night shot of a person ringing a front door bell can be lighted with one small spot to represent light from the porch light. This would definitely be a low-key scene and the entire effect would be lost if this scene were flooded with light. Always light for naturalness and theoretically forget the exposure problem until you have arranged your lights properly. After this is accomplished, take your reading on the subject and set the camera lens to the proper opening. When you have lighted your set for naturalness according to the mood and key desired, you will find that some



Dramatic low-key lightings like this are even more effective on color than in black-and-white.

areas are deeply shadowed and the other areas are more brilliant. You never walk into a room which is flat lighted and likewise your sets should be lighted in the same realistic manner. So many amateurs try to light their characters in such a manner that they are always bathed in light. The cameraman seems to fear that a shadow may fall upon the character, yet isn't it true that when you walk from one place to another, the lighting changes greatly? When your character is once established in a scene, he can remain in a deep shadow thereafter but his identity won't change. A great scene in "Gone with the Wind" was filmed entirely in silhouette when Scarlett was delivering Melanie's baby. It would not have added anything to that scene to have illuminated the faces.

It is strongly recommended that all of the lights should be strongly diffused for interior color-filming, thereby destroying sharp shadow-lines. This is particularly necessary when filming the close-ups. When the face is lighted with a three-quarters cross light with an undiffused light source, sharp shadow—lines are prevalent around the nose and eyes. With a heavily diffused light, these lines will blend and soften and remove any harshness from the face. However, the screened image will appear sharp as the camera lens captures all of the detail and sharpness of the features.

Avoid all abrupt changes in color from one scene to another. Color must flow as evenly on the screen as the continuity of the story. A scene predominant in red should not follow a scene which was predominant in blue. This is just as much of a shock to the eyes as an over-exposed scene followed by an under-exposed one in a black-and-white film.

Many novel effects can be filmed with the use of colored cellophane in front of

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How About Making A Family Newsreel-?

By JOHN L. HERRMANN, A.S.C.

AS 1940 and its movie-making fade into the past tense, most amateurs are likely to find themselves with a generous supply of family shots on hand, wondering what to do with them. Well, why not use them to build a newsreel of the family's doings during the year?

The raw material is there, in the form of those otherwise useless shots showing the dog getting his bath, the baby ditto, Cousin Jack and his family when they dropped in on their vacation-tour, to say nothing of all those shots you made of relatives and friends in various places whom you visited while on your own trip. All that is necessary is a little ingenuity in cutting, and the addition of the necessary titles. And you'll have gained a complete, new picture that will stand on its own merits as a picture.

There are several ways you can treat a subject like this in building your picture. The first and most obvious is of course to "play it straight"—assembling and titling the scenes in a serious, strictly literal fashion. This is probably the best if you happen to live among one of these uncomfortable families that can't stand a touch of kidding. Just cut in titles that identify the scenes as to time and place, and that tell the audience very clearly who is who on the screen.

On the other hand, if the family has a sense of humor, you can improve your picture tremendously by kidding the whole thing along. All it takes is "gag" titles, that introduce each sequence with a laugh. Heaven knows, the sort of family shots most cine-amateurs make are usually funny enough anyway—so why try to be serious about them? Take that shot of Cousin Jack's little Elmer making faces at the camera. Maybe his mother was shocked at the results on the screen, but even she could hardly help smiling at the title introducing him as "The Smith Family's Own Mickey Rooney!" Then those shots you made when high-school cousin Tommy brought home his second-hand Austin jallop— they're good for an extra laugh if you introduce 'em with something like "Tom Senior's Buick had an affair with a motor-scooter—and Tommy brought home the unfortunate result."

Another trick of getting laughs in family pictures is in coupling them with other, actually quite different thoughts that suggest screwy associations. One

amateur of my acquaintance, for example, jazzed up some otherwise commonplace shots of his youngsters at play by intercutting them with similar-appearing shots of animals in the local zoo. For example, a shot of his young daughters sun-bathing on the lawn was a "natural" to go with a strikingly similar shot of a pair of seals sunning themselves besides their pool. Another shot of Junior swimming about in a plunge made a natural pair with a zoo shot of a seal swimming in the zoo tank. Shots of the youngsters picnicking could be intercut with a close-up of an ostrich eating an orange, or even with shots of Farmer Jones' young porkers building up the bacon at the feeding-trough. And so it goes; you can "kid" almost any sort of a family shot—but be sure your associative coupling gets only a laugh, and doesn't leave a sting.

Incidentally, making up a picture like this can help a lot to make your last-summer's vacation films more interesting to the average audience. How? Well, in all too many vacation movies, the shots that really tell the story that interests the average audience—the story of your trip to Yellowstone or Hawaii or the New York Fair—are likely to be interspersed with shots of your own family and friends. These mean a lot to you, but—especially if, like most filers, you've been too scotch with your titles to introduce each person with an identifying caption—they don't mean a thing to the average projection-victim, who has never seen those people before, and doesn't know nor care who they are.

So in building up your family newsreel, just lift these personal shots out of your vacation reel. That picture will probably be much better off without them—and you have more material to go into your news-film!

Some people have still another possible approach to personal newsreel-making. They take their cameras to all sorts of local "happenings"—and then after they've screened the results once or twice, they wonder why they wasted film on it, and what to do with the shots anyway. Making a local newsreel is the answer.

A top-flight example of this sort of newsreeling is the "Phooeytone News" that Leo Caloia, of the Los Angeles 8mm. Club, assembles. Leo takes his camera to all sorts of things. If a

Presidential candidate comes to town, Leo films him. If there's a Shrine parade, his lens looks at that, too. If there's a demonstration of a new super-powered fire-engine, he shoots that. In between, he has attended and filmed most of the camera-outings of the various camera programmes broadcast by Southern California radio stations. He has shots of the Lion Farm; of the opening of the city's new Union Depot; of regattas, model airplane meets, of the Ice Follies. And does he go to town on California's perpetual bathing-girl contests! The result is a series of reels that really rival the professional news-films in variety—and (especially as regards the bathing-beauty sequences!) in displays of curvaceous camera-angles, as well! But it's a really good idea—and one that can be put into practice in almost any community.

It is only a step from this to planning and staging your own. Keep an eye on your own goings and comings during 1941, and make it a point to film scenes you can use in your own newsreel, whether it is a local or a purely family proposition. Doing this, you can often plan to stage things so they'll lend themselves to a particular style of cutting or titling better than if you just shot, and left the rest to chance. Give your people definite things to do—things which in titling your reel you can either play straight, or introduce with a "gag" title, knowing that the ensuing scenes will maintain the effect started by the title.

Finally, once you get into the swing of staging this sort of action, you can have a lot of fun building up a strictly comedy newsreel which can amuse almost any audience. Call it, say, "Smith's Unreal Newsreel"—and plan everything accordingly. Take advantage of the simple camera tricks that can be done with almost any 16mm. or 8mm. camera. For example, you can plan a sequence on Young Tommy going to school. Introduce it with a title that says in effect, "Tommy Hurries to School—" and then show Tommy going to school in *slow-motion*. Then you can top the laugh by going into the school-room some afternoon or Saturday, and staging some action of Tommy studying hard—close-ups of him behind a huge textbook which, from the front, make him look very industrious, but when the camera-angle is changed, show him "doodling," reading a detective-story magazine, or even snoozing peacefully. Then close the sequence by showing him coming home from school—shot at 8-frame speed. It's an inevitable laugh.

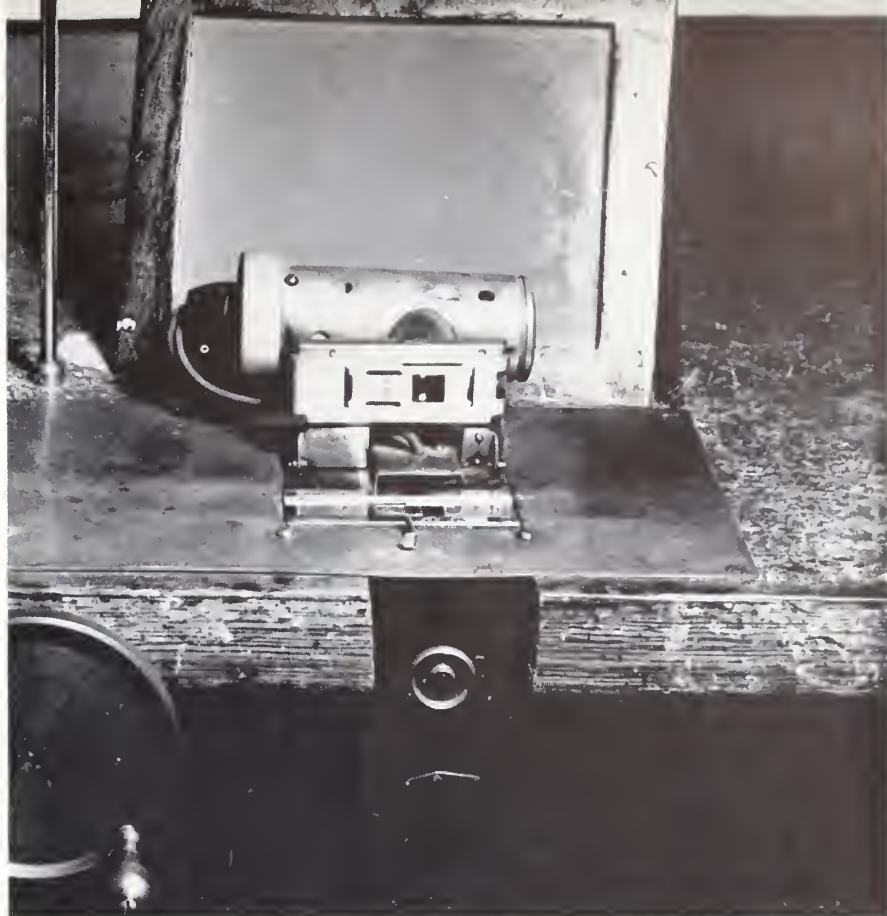
There are all sorts of similar comedy effects you can obtain by simple camera-trickery. For example, if you live in a wintery state, you can show Pop industriously shovelling snow from the sidewalk—and get it in reverse action, by the simple trick of shooting it with the camera upside-down. There's a real laugh in seeing a huge scoopful of snow shoot through the air to land on his uplifted shovel, and then be deposited carefully on the sidewalk!

SIXTEEN millimeter film, with its small image, has always presented a problem for the cutter in locating scenes. Since the acceptance of sub-standard photography in Industrial work, some means of viewing was needed which would simplify this problem.

Actually, two types of viewers are used by the Pacific Industrial Films but their application to a standard cutting table was not ideal. What was needed was one which would mount under the table to form a projection gate flush with the table-top.

Old-timers in the 16mm. field will remember the old Model A Kodascope projector. In its day it was the best projector on the market. The construction was very sturdy and many of these projectors, and in fact the cameras too, are used by amateurs for printers and other special 16mm. applications. Sterling Barnett, of the Pacific Laboratories, used one with excellent results for years, before the installation of a Fried Printer in the new laboratory. It was on account of these qualities that we selected the Model A for the viewer shown in the cut.

First the projecting mechanism, which included the intermittent movement, film-gate and shutter, was removed from the base. The rewind arms and lamp-



Model A Kodascope converted into viewer.

How to Build a 16MM. SILENT VIEWER

By HUBBARD HUNT,

Production Manager,
Pacific Laboratories.

house were also removed which left a compact mechanism embodying only the units necessary to feed the film.

To simplify threading, the two sprockets on either side of the gate were not used, which allows the film to come directly from the reel to the intermittent claws. By leaving sufficient slack between the two, there is no trouble in projection. After leaving the gate, the film is fed into baskets much the same as is done on standard Moviolas. It is to be remembered that this machine was designed for cutting and viewing only and is not practical for reviewing full reels. Its main purpose is to locate exact picture-frames and to identify sequences. After cutting, the film is previewed in a Bell and Howell or Craig viewer.

In mounting the movement, a section the size of the casting was cut from the cutter's table. Brackets were attached to hold the gate parallel to the

table-front and flush with the table-top. A brass plate fits around the gate to form a smooth surface to protect the film and keep dirt out of the mechanism. In this position the drive-shaft extends at right angles to the cutter and as the electric motor was not used, a crank was attached. This makes it possible for the cutter to control his speed, as well as direction.

At this stage you are probably wondering what was used for illumination. The Model "A" lamphouse is pivoted to swing out of the way but, due to its size, we made a small lamphouse out of brass tubing to hold a 50-watt slide film bulb. If you can obtain one of the very earliest Model A's, you may not have to build a lamphouse, as the very first models were fitted with a low-powered, midget-size lamp and lamphouse.

The "T" shaped housing we made is pivoted on special hinges so that it

can be instantly thrown back to clear the gate. A rubber bumper checks the back position and saves jarring the hot lamp filament.

Also built into the brass cover plate is a small contact switch to turn on the lamp automatically when in the closed position. The weight of the small lamphouse is sufficient to hold the gate against the film and engage the double claw movement. Should the film become fouled or in some way held, the light-weight gate bounces up with the claws, thus saving film-sprockets. Its ease of operation is a great time saver for a cutter.

Transferring the image to a rear-view ground-glass screen, mounted in front of the cutter and in back of the mechanism, was the next problem. Three front-surface mirrors bend the beam back up into a box mounting the ground-glass screen. No real problems are encountered here, outside of establishing the correct position and size of mirrors. Regular mirrors can be used if "ghost" or double image is not a handicap. A cover was made to house all the underside mirrors to keep outside light away, should cutting be done near windows. If mirrors and lenses are kept clean, the 50-watt lamp gives sufficient light on a 6x8 inch screen for both Kodachrome or black and white. The regular focusing knob is used without any alteration.

Though these old Model A projectors are beginning to become quite scarce, it is possible to pick up some in camera

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AMONG THE MOVIE CLUBS

CALLING ALL CLUB SECRETARIES!

This department of amateur movie club news is to be an important feature of THE AMERICAN CINEMATOGRAPHER from now on. We feel there is a great deal to be gained all around by making these reports of club activities available to other clubs and independent cinefilmmers all over the country. But to that end, we need your cooperation. Send us the reports of your meetings—but make them accurate and prompt, getting them to us not later than the 25th of each month. Reports received later than that run the risk of going unpublished, for there is nothing colder than last month's news. Wherever possible, too, we would appreciate getting reports of meetings that *have* actually happened, rather than those that are to happen. It's very embarrassing all around to read that something is *going* to happen at such-and-such a meeting, only to find later that the meeting was called off, or somebody else elected! We also welcome pictures that show club activities.

The Editor.



DEATH STRIKES VIA RADIO. AN ACTION-SHOT FROM THE TRIANGLE CINEMA LEAGUE OF CHICAGO'S LATEST PRODUCTION, "THE WAYNE MURDER CASE." PHOTO BY LEO BROOKS.

Minneapolis Has Big "8" Show

The Minneapolis Cine Club claims a record in near-professional projection of 8mm. at the Club's Fall Show. Complete with sound accompaniment, printed tickets and all the trimmings the Club's show was presented in a theatre-size auditorium before an audience of over 650 persons. According to Rome Riebeth, Editor of "The Cine Clubber," the Minneapolis Club's organ, it was an exclusively 8mm. affair, and a big success.

Philly Club Hears Presto Sound

Highlights of the December meeting of the Philadelphia Cinema Club was a demonstration of Presto Synchro-sound by its inventor, Ralph Powell. During the demonstration an ad-libbed narrative was recorded by club-member Walter Gray to synchronize with his 300-ft. 16mm. Kodachrome production "Autumn." Reports from Vice-President B. N. Levene indicate member Gray did a successful job on both the film-making and narration.

Other films shown at the meeting included "Over The Hill," a 550-ft. 16mm. Kodachrome film in which member C. M. Booth artfully blended scenery and human-interest; "Southern Panorama," an 8mm. Kodachrome subject by the Rev. Ernest van den Bosch, and others.

L. A. 8mm. Club Banquets

The Los Angeles 8mm. Club installed its 1941 officers—President A. J. Zeman, Vice-President Foster K. Sampson, Treasurer B. Bevans and Secretary Betty Barney—at the Club's annual Banquet, held this year at the Huntington Hotel, Pasadena, on December 14th. Included among the guests were representatives of the half-dozen other cine clubs in the Los Angeles district.

Highlight of the evening was the announcement by William Stull, A.S.C., Editor of THE AMERICAN CINEMATOGRAPHER and Honorary Member of the Club, of the winners of the Club's Annual Contest, which was judged under Mr. Stull's direction by a committee of A.S.C. members. First place went to Paul Renier, for his remarkable Kodachrome production "Diary," which had already gained national recognition as one of the best amateur films of 1940. The Horton Trophy, perpetual cup for the best vacation film produced by club members during the year, went to Loren Foote, who had previously captured it in 1938. Indicative of the Club's activity was the fact that 26 members entered a total of 35 films—some on 300 and 400-foot reels—and a total of 26 prizes were awarded!

Retiring President C. William (Bill) Wade, unable to be present due to his recent transfer to the Denver office of his firm, made his farewell speech via electrical transcription. The Club's appreciation was conveyed to him in the form of a copy of the Annual Number of the club's publication, "Thru The Filter," which was specially autographed by all the members and guests present.

Triangle Shoots Thriller

Celebrating their eighth year, the Triangle Cinema League of Chicago, formerly known as the J. P. I. Cinema League, have inaugurated their new officers for the year 1941. Martin Winn, formerly the Treasurer was chosen President; Samuel H. Gould, (producer of "By Rocket to the Moon"), Vice-President; Norman Abrams, Treasurer; Leo Brooks, Secretary; and Edwin Brooks, Publicity.

The League has just finished "shooting" their latest amateur movie, titled, "The Wayne Murder Case," produced and photographed by Martin Winn, script and direction by Edwin Brooks. Leo Brooks was in charge of still photography, while Jack Kovitz handled the lighting. Norman Abrams did his share by casting the actors to the various parts, 16 in all. The whole picture, 800 feet was shot in Kodachrome with good effect.

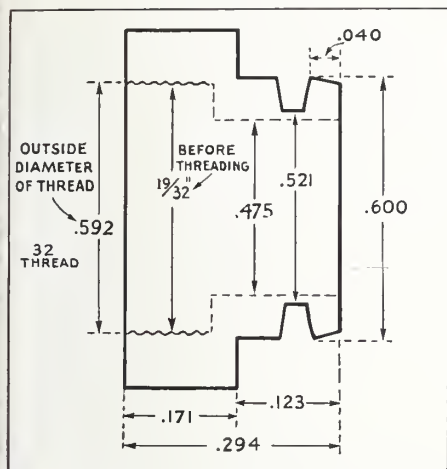
For one sequence Radio Station WEDC in Chicago was used together with all the equipment; for another, offices in the J.P.I. settlement house and club room were used. Plans are in progress to have recordings of music to go with the film and a special premiere by invitation will be held in the near future.

The story is a simple affair of a radio singer murdered by his faithless but pretty wife, involving several innocent people until the detective of the Philo Vance type solves the crime in the last fifty feet of the film.

In the cast were such notables as:

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THE IDEA EXCHANGE



8mm. Lens Adapter

OWNERS of Bell & Howell 8mm. cameras may for various reasons want at times to use lenses of different speeds or focal lengths made for other cameras. This can quite easily be done by making a simple adapter. Luckily, the regular Filmo-8 lenses are mounted so that the lens-seat is quite a bit closer to the film aperture than is the case with most conventional screw-mount lenses. When I recently decided I wanted to use a Revere lens on my Filmo, I found that the distance from lens-seat to film on the Revere mount was .484", while on the Filmo it was only .313". Making an adapter for this was easy. All that was necessary was to turn out of aluminum a little collar, one end of which was an exact duplicate of the business end of a Filmo lens, and therefore fitted the Filmo's bayonet lens-mount, while the other was threaded to receive the Revere's screw-threaded lens.

The sketch shows the general appearance of the gadget, and its dimensions. In making it, I chucked up a bar of duralimin in my lathe, and turned it first to the desired maximum outside diameter. Then, without removing it from the chuck, I drilled the inside hole, leaving enough metal at the front or Revere end to permit threading. After that, I shaped the rest of the adapter as requisite. As a matter of fact, since I wanted several, I made several at once out of a single piece of metal, cutting them apart only after finishing as many of the outside cutting operations as possible. If accurately made, these adapters will prove very satisfactory, and make it possible to use any Revere lenses (or other lenses similarly mounted) on any Filmo 8.

LEON MILLER.

Projector Blimp

HOME movie shows can be put on much more pleasantly—and professionally—if you bottle up the noise of the projector with a soundproof blimp.

I made a very satisfactory blimp for my Eastman 16mm. projector by making a wooden frame and covering it with plywood.

The whole right-hand side of the blimp is hinged, to open like a door so you can thread the projector conveniently. At the front is the window through which the picture is projected. This is glazed with good-quality, clear plate glass. To avoid reflections, it is best to tilt the glass forward, the way the glass in the projection-ports of theatre projection-booths is tilted. In other words, mount the glass so the top edge is about half an inch farther forward than the bottom edge.

Ventilation, especially if your projector uses a 500-watt or 750-watt bulb, is an important problem. Cut a round hole in the top of the blimp, directly above the place where the projector's lamphouse will be. Screen this with a coarse mesh wire screen. Cut a similar hole at the back of the blimp, well down toward the bottom. Screen this similarly, and mount inside it an electric fan to force cool air in from the outside. You can use the fan-unit from a cheap electric hair-dryer, or one of the midget sized electric fans that can be bought cheaply. This fan should be mounted on sponge-rubber pads, so it won't add to the noise you're trying to bottle up. It's a good idea also to mount the projector on a sponge-rubber mount, to absorb its vibration. Sometimes the plywood sides will vibrate and produce a drumming noise; this can be minimized by running ornamental metal beading-strips crosswise on the side panels.

Wire the blimp so you can use a very short cable to connect the projector to a current outlet built into the blimp. This will in turn be wired to a socket outside the blimp into which the regular extension-cable can be plugged. It is a convenience to fit the inside of the blimp with a pilot-light, too.

The whole thing can be made very neat-appearing by covering the outside of the case with Fabrikoid to give a black, brown or gray leather surface that matches the projector.

C. EARLE MEMORY.

Marking Projection Globes

IF you use projection-globes of several different sizes, according to the size picture you want to show, it is often mighty inconvenient when you have to change globes in a hurry to try and figure out which is which. If your projector, like my Bell & Howell 8, uses globes with a black metal tip-cap, this can be simplified by painting a white numeral to indicate the power of the globe on each globe-cap. You don't have to write out the full wattage—just a 3 for 300-watt, 4 for 400-watt, 5 for 500-watt, and so on. It's a great trouble-saver!

ALLEN P. SMITH.

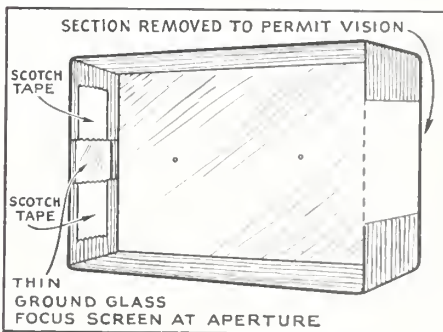
THE IDEA EXCHANGE is just what the name implies—the place where 16mm. and 8mm. cinefilmmers can swap moviemaking ideas with the other fellow. The little improvised tricks you used to solve one of your cinemaking problems may be just the answer to something that's perplexing a fellow filmer—and one of his ideas may solve a problem for you.

To help out this exchange, THE AMERICAN CINEMATOGRAPHER invites you to send in descriptions of gadgets, tricks, shortcuts and methods you have used in any phase of home movie work—shooting, editing, titling, projecting, processing, and the like. If possible, send along a photograph or sketch to help make your description more clear to the other fellow. For every idea published in THE IDEA EXCHANGE, we'll give you two projection-reels and cans. Really unusual ideas will receive higher awards. When sending in your idea, let us know whether you shoot 8mm. or 16mm. to facilitate sending you the right equipment.

Magazine Focuser

SOMETIMES users of magazine-type 16mm. cameras may need a ground-glass focusing accessory for exacting work like title-making and the like, but not feel able to purchase one of the rather expensive focusing magnifiers which can be slipped into the camera in place of the magazine. Here's one I made myself, and used successfully in making micro-movies, titles and the like with a Filmo 121 magazine-camera.

Purchase a fresh magazine of film from your dealer—or if you live near a processing station, see if you can beg an empty magazine from the folks there.



If you have to use a new magazine, remove the film in a darkroom; all you want is the magazine—and you might as well save the film for future use.

The metal parts of the magazine are

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...THE SHOWCASE...



Movie-Mite 16mm. Sound Projector

The Movie-Mite Corporation of Kansas City announces a new, low-priced, lightweight 16mm. sound-projector known as the Movie-Mite. Designed to fill the need for a small, portable 16 mm. Sound-on-film projector for showing business films to small groups in offices and the like, this small (25 pound) machine should find additional usefulness in supplying small-screen sound projection for home use as well.

The machine can be set up and in operation in less than three minutes, according to the manufacturers. The projector is self-contained in a case 8x15 inches in size, which accommodates beside the projection mechanism and amplifier, a screen, speaker, cords, spare lamps, reel-arms and three 400-foot reels of film. For longer shows, 1600-foot reel-arms are also available. The screen and speaker-baffle fold to fit into a compartment on the right-hand side of the case. A single cable line, permanently connected to the speaker, plugs into the projector at one end, and carries an extension which may be plugged into any convenient outlet to furnish the power-supply.

An automobile-type 50-candlepower miniature globe provides light for both projection and sound pick-up, "leaked light" from the rear of the globe being carried through an optical system to the sound-scanning aperture. Designed for illuminating the machine's usual 15-inch screen, this light is nevertheless adequate for use on somewhat larger screens up to about 30x40 inches for home use.

To reduce the general weight and bulk of the unit, a new and simplified mechanism, excellently built of modern die-cast and plastic materials has been designed. This is mounted in rubber, with oilless bearings. The result is said to be a simple and efficient unit for which maintenance and service costs are held to an absolute minimum. Further, the operation of the projector has been so simplified that the makers claim a child of

ten can handle it with professional skill.

The Movie-Mite is offered in two models: a single-speed (24 frames per second) model for sound-films only, and a two-speed (24-frames and 16-frames) model for both sound and silent films. The prices are \$149.50 and \$159.50, respectively.

Kalart Offers Free Trial

A sample speed-flash shot at no cost is offered by makers of the Kalart flash synchronizer to acquaint still-camera users with the simplicity of making synchronized flash shots. All who write in to the Kalart offices asking about the firm's synchronizers will receive a card which, when filled out and presented to his dealer, will entitle him to have his camera fitted with a Kalart synchronizer, a bulb placed in the socket, and an opportunity to make a synchronized flash shot with his own camera—without expense.



Kodaflector Senior

The new Kodaflector Senior lighting unit for home movies and still photography, recently announced by the Eastman Kodak Co., is shown above. By utilizing the support rods in various positions, the lamps can be placed at any point from floor level to 7½ feet high, and spaced as much as 5 feet apart.

The reflectors are reversible, one side being given a bright, highly reflective surface producing a brilliant beam whose angle is well suited for movie lenses. The other side has a sand-blasted center which produces a softer, more diffuse light excellently adapted for close-up work. Each lamp is individually adjustable for up-or-down-angling. An accessory "extra assembly" is available for users who wish to add a third light to the unit.

Grace Exports S.O.S.

The well-known exporting firm of W. R. Grace & Co. has been appointed exclusive distributors for several Central American countries of the S.O.S. line of 35mm. projection apparatus. A number of equipments have already been shipped, including new models of the S.O.S. Superior-Eagle 35mm. theatre projectors, which will be combined by Grace with RCA-Photophone sound reproducers, also distributed by them.

Focuser For Filmo 121 and Simplex

Users of the more recently-introduced magazine-type 16mm. cameras have found the ground-glass focusing magazine units supplied for use with these cameras extremely useful in making titles, extreme close-ups and similar shots involving precise focus and parallax-free framing. Users of the earlier magazine designs such as the Simplex-Pockette and the Model 121 Filmo will gain similar advantages from using the Goerz parallax-free focuser and field finder control, which is specially made for these cameras. The device fits the camera in place of the usual film-magazine, and offers a full-frame focusing image magnified 4x, and a center-frame image magnified 8x for super-critical focusing. The eyepiece may be adjusted to any individual eye.

Kalart in New Factory

The Kalart Co. announces the opening of its new factory, located at 114 Manhattan St., Stamford, Conn. While the firm's general sales office remains in New York, manufacture, repairs, installations and service will be handled at Stamford, and should be sent there.



Agfa Reflector Kit

In response to continuing demand, the inexpensive Agfa Reflector Kit has been
(Continued on Page 46)

J. E. BRULATOUR, INC.

Extends to

THE CINEMATOGRAPHERS

of the

Motion Picture Industry—

GOOD WILL

and

GOOD WISHES

for a

SUCCESSFUL

HAPPY

PROSPEROUS

NEW YEAR

J. E. BRULATOUR, Inc.
—— DISTRIBUTORS ——

Photography of the Month

(Continued from Page 19)

been counted among Hollywood's aerial specialists, yet in this production his air-work is tops. No pun is intended when it is said that the air scenes Smith contributes to "Flight Command" literally raise the film above the ordinary run of air pictures. They are spectacular in the extreme, highly pictorial, and handled with such skill that to this reviewer it seems doubtful if any other man in the industry could have done any better, or even equalled them.

Harold Marzorati's contribution in the many process and special-effects scenes is equally fine. The projected background scenes in particular deserve high praise. In a film of this nature there are inevitably many of them, and it is high evidence of Marzorati's success when it is said that not one of them looks like a process-shot. The miniatures, on the other hand, do not seem to fare so happily. Several of them are excellent, but certain others had an obviously "miniature" look which fitted ill with the realism of the rest of the picture. Some of this can probably be blamed on the direction, especially in one instance—a plane take-off from the beach—in which for an added, unnecessary thrill, the director made the hero's plane take off down-wind, after having previously landed up-wind. On the other hand, the film's two plane crashes must be listed as among the most convincingly handled crashes seen in a long time. This is especially true of the one, midway in the picture, where the heroine's brother's ship crashes and burns. It is an impressive bit of technical work all around.

Finally, but by no means least, endless credit should be given the many unnamed Navy pilots whose flying, individually and collectively, did so much to "make" the picture. Some of these shots, in combination with Smith's camerawork, offered the most graphic presentation yet seen of formation flying, and especially of changing formations in the air.

VICTORY

Paramount Production.

Director of Photography: **Leo Tover, A.S.C.**

This production of Joseph Conrad's South Seas melodrama is highlighted by some of the best work we've seen from Leo Tover's camera in some time. Keyed throughout in sombre, low-key lightings, Tover's photography adds measurably to the atmosphere and dramatic strength of the production.

The characterization of feminine star Betty Field is notably aided by subtle changes in camera treatment and make-up. Beginning the picture in a mood of drab despair, her characterization becomes increasingly more appealing as co-star Fredric March grows increasingly conscious of her femininity. This transition is enhanced by progressively

more and more favorable photographic treatment and make-up; in each successive scene Tover makes Miss Field a bit more attractive, until at the end misogynist March's sudden capitulation is thoroughly understandable to the audience. It is a type of photographic trickery which could very easily be overdone; but Tover skillfully conceals the artifice, while using it to the full.

The film's innumerable effect-lightings are worthy of note, especially in the extreme low-key effects of the closing sequence. Here again Tover's lighting adds tremendously to the force of the action, in a sequence which could all too easily have been mishandled photographically. After filming the rest of the production with somewhat strong contrasts, there would be a very natural temptation in filming this closing sequence not merely to lower the visual key as the action requires, but to increase the visual harshness to match the melodramatic action. Instead, Tover lowers his illumination key, but softens his lighting and diffusion, producing an effect which adds notably to the dramatic suspense of the action. It is beautifully done.

KITTY FOYLE

RKO Production.

Director of Photography: **Robert de Grasse, A.S.C.**

Director of Special-Effects Photography: **Vernon L. Walker, A.S.C.**

In the accepted sense, "Kitty Foyle" is not a cinematographer's picture. The greater part of the action takes place in cramped, somewhat shabby sets which afforded Director of Photography de Grasse comparatively little opportunity for the sort of camerawork and lighting usually classified as spectacular photography. Yet for all that, "Kitty Foyle" is interesting photographically. A good part of the film's footage is in low-key effect-lightings which are excellently handled, while de Grasse's change of visual mood between these sequences and the one in the luxurious home of the aristocratic Philadelphia family is more than ordinarily deft. It helps point the drama of these scenes excellently.

There are some very interesting sequences in a speakeasy, in which the use of low sets with ceilings, combined with the selection of relatively low camera-angles and rather wide lens-angles, heightens the atmospheric value of the scenes.

The special-effects work is excellent, especially in the next-to-introductory sequence, the star's dialog with her reflected conscience in the mirror, via process projection. The story is told in a rather episodic flash-back construction, joined together with interesting optical transitions.

On the less favorable side must be mentioned the star's make-up and its consistently poor facial rendition. It makes one wonder why it is that almost inevitably when a successful light comedienne grows ambitious to play heavy dramatic roles, she turns at once to ex-

aggerated make-up of some sort to aid her in her professional change of pace. Joan Crawford did it a few years ago—and nearly wrecked her career on a lipstick; Clara Bow tried it. Today it is the delightful Ginger Rogers who in her efforts to go dramatic has turned to make-up which, far from accomplishing her purpose, merely gives her the effect of a dirty face. She doesn't need that kind of help—and why should she saddle an excellent cinematographer like de Grasse with such an unnecessary handicap?

FOUR MOTHERS

Warner Bros.-First National Production.
Director of Photography: **Charles Rosher, A.S.C.**

"Four Mothers" isn't a particularly distinguished picture, but both as entertainment and as cinema technique it has many solidly satisfying qualities. Cinematographer Rosher has shown to greater advantage in many previous films, but in them he has undeniably had more to work with. His contribution to "Four Mothers" is thoroughly workmanlike. The opening and closing shots of the film, incidentally, deserve special comment, as they are among the more difficult dolly-shots seen in recent releases. In the first, the camera dollies up to the exterior of the house, through an open window (while, by the way, the walls, unseen, are jerked out of the way by winches to permit the passage of the dolly) to a close-up of a diploma on the wall, then to a bust of Beethoven, then to actor Claude Rains, then to Priscilla Lane, and finally to a baby playing happily on a piano. In the closing shot, this intricate camera-movement is substantially repeated in reverse. Rosher and his set crew deserve credit for some very efficient work in their smooth accomplishment of these complicated camera moves.

Rosher's handling of many of the exteriors around the Lemp home—actually built indoors on a stage—is another item deserving high credit. He manages an unusually natural outdoor effect.

Amateur filmers will find much to study in his lighting of the interiors in this home. It is the sort of a house you'll find in any community, and the lightings Rosher uses in it can well serve as a guide for lighting your own home. On this count alone "Four Mothers" is worth seeing.

Raid Aids Sound Effects

Reviewing a British showing of "Foreign Correspondent," a writer in the Amateur Cine World (London) comments, "—The German night raiders managed to achieve a good bit of synchronizing with Hitchcock's second American film, 'Foreign Correspondent' when I saw it recently. While an airliner was being blown to bits on the screen by shellfire, bombs were being dropped outside the cinema, which greatly added to the effect and produced results unobtainable with the finest modern recording!"

PREEMINENT

ALL three Eastman negative films make important contributions to the startling beauty of today's screen productions. Unvarying dependability and wide latitude make them the established favorites of critical cameramen. Eastman Kodak Company, Rochester, N. Y.

J. E. BRULATOUR, INC., *Distributors*

Fort Lee

Chicago

Hollywood

PLUS-X

for general studio use

SUPER-XX

when little light is available

BACKGROUND-X

for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS

16mm.-Pro.

(Continued from Page 12)

have estimated the potential saving at close to \$10,000 for a single high-budget production.

But to Clark's mind, this is by no means the greatest saving. "In most instances," he continues, "the saving in film-cost, though by no means considerable, is a secondary element. For one thing, there is the problem of re-rigging a test-set with the arcs which are required for Technicolor. Then there is the matter of obtaining one of the limited number of Technicolor cameras available, getting it out to the studio, and into action. We have found that on the average we can make our 16mm. test and have the film out of the camera and on its way to the processing laboratory in less time than would ordinarily be required to get the Technicolor camera out to the studio and on the set.

"In that connection, too, there's a gain in getting the color test back from the lab to put on the screen. Getting the 35mm. color print back from the lab for screening is usually a matter of two days or more; with 16mm. Kodachrome, which is processed at the Hollywood Eastman Kodak laboratory, we can get our test on the screen within from 6 to 24 hours after it is shot. Definitely, we're enthusiastic about the possibilities of 16mm. for this sort of work. We're using it; we intend to increase our use of it. Under today's production conditions it is a most valuable aid to our aim of putting better pictures on the screen at lower cost."

Location Scouting

Location-scouting is another field in which 16mm. film is increasingly useful. The advantages of sending out a location-scouting crew with a light, extremely portable 16mm. outfit instead of a bulky 35mm. black-and-white or Technicolor outfit are obvious. It is no wonder, therefore, that not only 20th Century-Fox but also Metro-Goldwyn-Mayer and Paramount are making extensive use of 16mm. for this purpose.

At MGM, for instance, according to Executive Director of Photography John Arnold, A.S.C., in addition to wardrobe and other interior tests as outlined above, all locations are now scouted in 16mm. The spectacularly beautiful locations used in that studio's Technicolored "Northwest Passage" were picked from 16mm. Kodachrome tests, while the equally spectacular ones brought to the screen in "Wyoming" were similarly selected from 16mm. monochrome.

At Paramount, Camera Chief C. Roy Hunter reports that even now a location-hunting party under the photographic direction of Harry Perry, A.S.C., is scouting the Caribbean region seeking locations for two forthcoming films—Cecil De Mille's "Reap the Wild Wind" and "Dildo Cay." The former production is to be in Technicolor; its locations are being scouted in Kodachrome. The latter is probably to be in black-and-white; therefore its locations are being scouted large-

ly in monochrome.

In that connection, reports generally indicate that while 16mm. Kodachrome holds the studio spotlight, and does the lion's share of the work, 16mm. black-and-white is by no means overlooked. Due to the lesser margins of economy in consequence of the lower cost of 35mm. black-and-white as compared to color, however, only about half as much 16mm. test-footage has been shot in monochrome as in color.

16mm.'s Limitations

To date, the limitations of 16mm. for testing seem most apparent in two fields. The first is in make-up and character tests, which as a rule demand the utmost accuracy in photographic rendition, and are accordingly usually shot in 35mm. black-and-white or Technicolor, as the case may be. Obviously these tests must give results absolutely identical with those which will come when the production gets actually under way in 35mm., and due to the differences, slight as they are, between the 16mm. and 35mm. emulsions, standard film is as yet considered preferable.

As regards this, however, Paramount's Hunter remarks, "There is no reason to believe that these limitations need be permanent. For one thing, 16mm. emulsions and processing are constantly improving. For another, we are learning more all the time about handling 16mm. Remember, we've been shooting 35mm. for many years—but we've been shooting 16mm. professionally for only a matter of months. Present indications are that corrective filtering may soon be able to compensate for all these differences, and enable us to obtain in 16mm. precisely the same screen results we will get in the 35mm. production. At any rate, we at Paramount are using 16mm., we like it, and we intend to learn all we can about what it can do for us."

The second limitation of 16mm. is in the matter of making tests that require the use of sound. At present, 16mm. sound does not appear to be productive of results equal to the best of 35mm. studio recording, though it is undoubtedly, when recorded and reproduced on the best 16mm. equipment, comparable to what is heard by the ultimate customer when that best 35mm. recording is projected by the average smaller theatre. But the sound in talent and character tests, like the picture-element in such tests, must be identical to the best obtainable under actual production conditions, so 35mm. is used.

This is, however, no indication that 16mm. cannot ultimately be used even for this purpose. It is known that all of the studios making use of 16mm. have been making exhaustive studies of 16mm. sound, as exemplified by such units as the Berndt-Maurer, the Auricon, and other modern 16mm. recording units.

This professional 16mm. activity is by no means one-sided in its benefits. If the studios have found a valuable means of economizing in pre-production expense and in making it possible to put

more of each production dollar on the theatre screen, 16mm. is benefiting as well. Film, methods and equipment are receiving the acid test of professional studio use. Professional-type cameras and recorders, like the Berndt-Maurer "Sound-Pro" and at least one as yet undercover professional 16mm. outfit from another major manufacturer, are getting the benefit of testing, criticism and suggestions from the industry's most exacting cinematographers, recordists and engineers. In short, out of this new-day economy move, not only may Hollywood find new tools and methods, but 16mm. seems sure to make noteworthy strides during the coming year!

Kodachrome

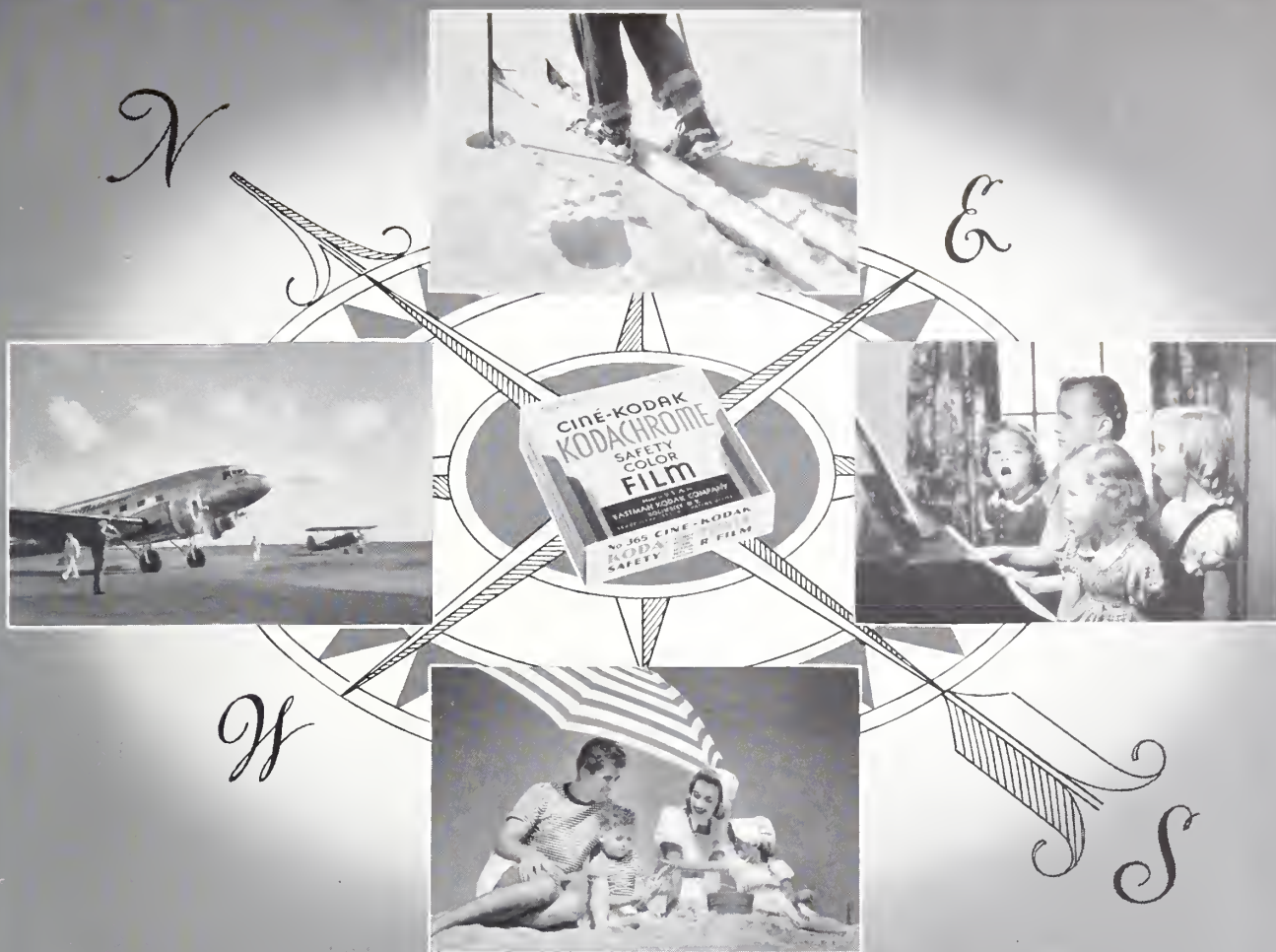
(Continued from Page 25)

the light sources. By placing orange cellophane on the source used for back-lighting the hair and one cheek, a feeling of warmth can be added to the subject. Blue light will give a moonlight effect and yellow light will appear as a sunset glow. Green lends an air of mystery to a scene, while a carnival atmosphere can be obtained by using many differently colored light sources.

Naturally, the use of colored light will necessitate the increasing of the exposure, but this can be determined by reading the meter through the cellophane before placing the colored medium ahead of the light sources. We are all familiar with the calenders having the beautiful girls that are rimmed on one side with an orange light and on the other with green or blue, while the front-lighting is composed of yellows and pinks. You can get this same effect if you place your colored light sources properly—and if you can get the beautiful girls.

In set lighting, certain colors can be subdued by lighting with colored sources. If the room contains brilliant red drapes and light blue furnishings, a pale blue light will subdue the brilliance of the drapes, yet will not affect the coloring of the furnishings. Likewise, a light orange light will subdue prominent green or blue objects. It is not advisable, however, to use colored sources entirely through a sequence or scenario as the unbalanced color renditions will detract from the beauty of the majority of sets. Its use is only suggested for special effects or novelty. And take care in letting it fall on faces except when you definitely want a colored-light effect!

Lighting for color film, in fact, an easier task for Kodachrome than for panchromatic stock. The renditions of degrees of light and shadows are easily acquired in Kodachrome as the presence of color augments the contrast. Where the contrast can be acquired by the use of shadow and color, in panchromatic filming this must be acquired by light alone. By using the same lighting effects in Kodachrome as you do in black and white, you gain the advantage of enhancing your scene with the addition of color. Watch the effects in color on the professional screen and try to get the same results by disregarding the old rule of flat lighting.



It's a KODACHROME Winter

WHEREVER you are, wherever you go, this is a Kodachrome winter. Even the apparent black-and-white of a northern winter scene is rich in color. Kodachrome Film finds and reveals that color. Add the gay color of winter sports costumes, and Kodachrome becomes even more important.

In the South and West color dominates every scene, color for you and your Kodachrome-loaded movie camera to relish. Indoors, of course, Type A Kodachrome means movies in color under Photoflood light, no matter what the weather outside may be.

Ciné-Kodak Kodachrome Film is available for both 8 mm. and 16 mm. home movie cameras. The cost of expert processing and return, within this country, is included in the purchase price. 16 mm. 100-ft. roll, \$8; 50-ft. roll, \$4.30; 50-ft. magazine, \$4.65. 8 mm. 25-ft. roll, \$3.40; 25-ft. magazine, \$3.75.

★
E A S T M A N
K O D A K
C O M P A N Y
R O C H E S T E R
N . Y .

Progress

(Continued from Page 7)

veloped by Mole-Richardson, Inc., and improved carbons developed by the National Carbon Company. These units were the result of the activities of the Special-Process Committee of the Academy Research Council, and have already resulted in marked increase of the scope and quality of back-projection cinematography.

Two productions—Paramount's "Dr. Cyclops," and Hal Roach's "One Million Years B.C."—were released as outstanding examples of special-effects camerawork. The former made notable use of the possibilities of projection-shots in Technicolor, while the latter offered a remarkable example of the use of multiple exposure and printing techniques to produce a composite in which real people appear with actually small lizards, etc., enlarged to the proportions of prehistoric monsters.

Set Design

In several productions the beginning of a definite new trend in set design could be observed. This is characterized by the use of low proportions, and in some cases by having part or all of the set roofed over with a low ceiling. The results on the screen—photographically and otherwise—are extremely interesting.

Laboratories

A new entry in the field of high-quality 35mm. laboratory work appeared in the Frank Williams Film Laboratory. Long known as outstanding specialists in sound-track processing, this plant expanded during 1940 to handle picture-negative processing and daily and release printing, taking place as one of the largest-capacity independent plants on the Pacific coast.

The adoption of fine-grain positive for printing proceeded conservatively, due to the light-source problems involved, with the utilization of this stock confined largely to sound-track prints for re-recording and similar special uses. Some of the plants in which this film was used employed over-voltaged mazda light-sources with appropriate filters, while others utilized various forms of high-intensity mercury-vapor arcs.

Bell & Howell introduced two much-needed units for reduction printing from standard to substandard film. One was the microsound printer, for sound-track; the other an optical reduction printer for picture. The latter could be equipped to make reduction prints from 35mm. to 16mm., 35mm. to 8mm., or 16mm. to 8mm.

Late in the year ERPI introduced a valuable new sensitometric tool in the Integrating-sphere Densitometer. In this, a hollow sphere, the inner surface of which is finished in white, and fitted with a photoelectric cell, is substituted for the human eye as the density-measuring instrument. The current from the photocell is transmitted to an indicating meter which is calibrated in terms of density. The new device eliminates visual comparison of densities, and should prove much more accurate for sensitometric measurements than previous visual densitometers.

R. H. Talbot of the Kodak Research Laboratories announced the development of a lacquer which when applied to motion picture film minimizes the damage ordinarily done by cinch-marks and similar abrasions, and the mottled effect produced by oil thrown from the projection mechanism. The lacquer may be applied to one or both sides of a film, and when the print appears badly worn may be easily removed and replaced with a fresh coating, giving the print virtually a new lease on life. The solution may be applied to 35mm., 16mm., or 8mm. film, either black-and-white or color. It is said to have no harmful effects on the dyes of color film.

Sound—35mm.

Without doubt the most sensational development in 35mm. sound-recording technique was ERPI's introduction of Stereophonic recording and reproduction, which gives substantially third-dimensional sound. Since this process requires three completely separate recording and reproduction channels and their associated equipment, with in addition a fourth control-track channel, it is scarcely surprising that nothing has as yet been done with the process commercially. It seems likely therefore that in spite of its admitted aural perfection, this method will not be used commercially in motion pictures for some time, if at all.

A distinctly similar system has been developed for use with Walt Disney's special feature, "Fantasia," and is to be temporarily installed in each theatre in which this production is to be road-showed. While this "Fantasound" has not as yet been demonstrated on the Pacific Coast, it appears, like the Stereophonic system, to involve a multiplicity of sound-tracks and reproducing channels, with, however, loudspeakers located at various unconventional points in the auditorium—including the rear of the house—so that any given portion of the recorded sound may be made apparently to come from any direction, or even pass completely around the listener. It appears, too, that in this case manual control is substituted for mechanical control by means of a control track.

Somewhat more practical seems the new method of automatic volume expansion developed by RCA and publicized by RCA as "Panoramic" Sound and by Warner Brothers under the name "Vitasound." This involves substantially conventional recording, plus a control-track printed along the sprocket-hole area of one edge of the film. This in turn cuts in or out additional amplifiers and speakers added to the conventional reproducing channel.

Sound—Substandard

Without doubt the most significant immediate development in the 16mm. sound field was Eric M. Berndt's introduction of the "Auricon," a compact, popular-priced 16mm. (double-system) recorder of radically new type. The recording unit, which is daylight-loading, fits with its power-supply, microphone, and all associated equipment save pic-

ture-camera and camera driving-motor, into two cases each about the size of a portable typewriter-case, each weighing approximately 20 lbs. The recorder is as nearly foolproof as is possible, and can be used with any 16mm. camera to which an electric driving-motor can be fitted.

In the amateur sound field, Presto "Synchro-sound" provides a method of synchronizing camera or projector (either 16mm. or 8mm.) with disc recording or reproducing units to provide synchronized music, narration or even directly synchronized dialog for amateur films. The device consists of an electrical synchronizing unit attached to the record turntable and controlling the motor driving either the camera or the projector, as the case may be.

Projection

In the substandard field, a notable improvement in 16mm. projection was the development of improved carbons for the high-intensity arc lamps used in the various 16mm. arc projectors. These new carbons burn with a somewhat redder light-flux, giving a warmer and more natural rendition of Kodachrome.

Improved incandescent projection-lamps for both 16mm. and 8mm. projection on extreme large screens were also introduced. These are the so-called "10-hour" lamps which, by making use of the Photoflood principle of over-voltaging, provide increased intensity at the expense of shortened life. A 400-Watt lamp of this type will produce approximately 50% more light than a conventional lamp of equivalent wattage, and approximately 20% more than a conventional 500-Watt lamp. The life of this lamp, however, is reduced to an average of about 10 hours.

An interesting accessory for home projection is "Add-Color," invented by William Millar of the Los Angeles 8mm. Club, and marketed by Freidel's, of Huntington Park, Calif. The device consists of an 8-segment color-disc placed in front of the projector, and rotatable so that the projection beam passes through any one or two of the color-segments, producing a tinted effect in black-and-white pictures.

During the past year, too, larger reels for 8mm. projectors were developed as three projectors—Ampro, Revere and Eastman (Model 70-A)—were equipped to accommodate 300 and 400-foot reels in addition to the conventional 200-foot size.

Still Photography

As was predicted last year, the war's virtual elimination of camera-imports from Europe resulted in the introduction of a remarkable number of high-grade, American-made still cameras, too numerous to mention individually.

A most significant innovation in still laboratory methods was the introduction by one manufacturer of a bromide paper capable of a considerable range of contrasts through the use of different filterings.

Photoflash technique advanced through the development of a new range of super-powered midget-size flashbulbs to-

gether with associated flash-reflector equipment which permit either "spot" or "flood" effects with these globes.

At the other extreme was Eastman's introduction of the "Kodatron" super-speed flash lamp, derived from Edger-ton's researches, for extreme high-speed synchro-flash photography at speeds up to 1/100,000 second.

Little England

(Continued from Page 10)

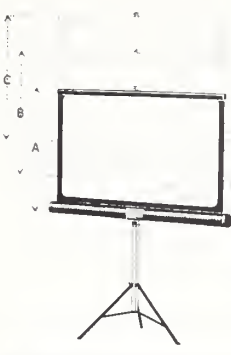
working would not justify a sequence of an industry. At Kokosila, a Mrs. Corfield had been very active in encouraging the Indians to develop their arts. She had set up a trading post where the Indians could have instruction and learn to improve their designs and workman-ship. It was also a marketing place for their wares and Mrs. Corfield had a large stock of goods on hand. In addition her back yard contained a row of ancient, authentic totem poles.

From there on the sequence was ob-vious. Mrs. Corfield persuaded a group of Indians to come in to the trading post and bring their equipment and articles that were partly completed. The stage was set in front of the totem poles—one woman was carding wool, another spinning and rolling up yarn and another knitting. Several men were placed on the set carving totem poles, mending fish-nets and cleaning guns. The whole set-up was like a six ring circus, but all of the essential steps in the sweater making industry were included in one general view. The Indians, once placed in position, were easy to work with. They stayed put and kept right on work-ing, never looking at the camera as we moved the equipment all around them—low down, high up, over their shoulders, sidewise and right in close.

For some more real English flavor, we located a typical English inn, The Royal Oak Inn, on the outskirts of Victoria. The building was perfect outside with thatched roof and inside with a large fireplace, beamed ceiling and all the trimmings. There was a huge silver roast serving tray with rounded cover—so we staged a dinner. The chef in white suit and cap cooked the traditional Eng-lish roast beef with Yorkshire pudding. When the lid was raised and a slice of the beef carved, you could almost taste it since the camera was brought in for full close-up, and slight back lighting made the juice stand out realistically.

A detailed sequence was made also of a maid preparing a typical tray of tea. General views and close-ups of the dining room followed logically.

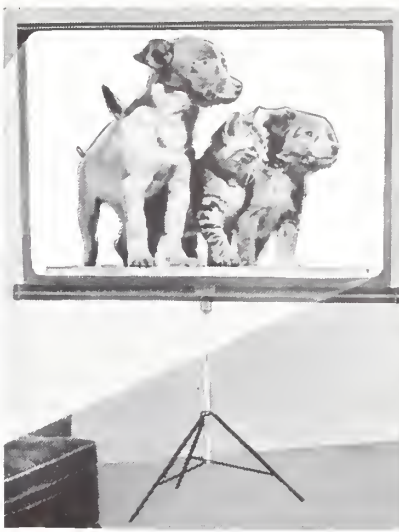
Still looking for subjects that main-tained the "Little Bit of England" theme, we learned of Church Parade, a traditional ceremony on Sundays at Work Point Barracks. With snappy military precision, crack regiments marched onto the Parade Ground and formed with three sides facing a flag-draped altar. As the Chaplain took his stand, the men bowed their heads in prayer. Then they sang lustily. During the service, the men sat on the ground and after service they marched off in quick time to the



THE DA-LITE CHALLENGER

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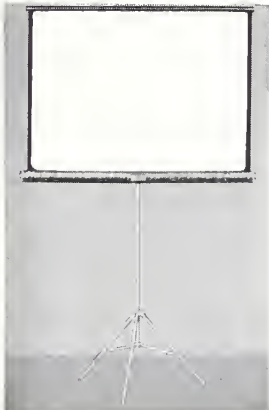
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swing of bagpipes and drums past the Commanding Officer. A high shot was obtained of the whole formation from the attic of a building nearby, and close-ups were made of all the essential features. As we did not want to disturb the solemnity of the occasion, we arranged to make the close-ups of the Chaplain after the services.

There's a snappy girls' drill team with white suits and high hats in Victoria. We made a tricky sequence of them drilling on the Parliament lawn, always keeping this imposing building as a back-drop.

In one of the parks of the city, they have assembled a large collection of totem poles. As the display was just

being arranged, it was an opportunity for action. We made scenes of the men arranging and painting the totem poles. This of course was a relief from the usual procedure of having tourists looking at museum pieces.

For an ending of the reel we found just the ideal feature—Toasting the King. This traditional custom is enacted on regular mess night at English military and naval posts throughout the world. Our scene was made in the officers' mess of a coastal battery fortress. Every detail was prepared under supervision of one of the officers. Lights were installed overhead and a camera position selected to include the whole table, with fireplace and mantel in the background.

Over the mantel was a splendid portrait of His Majesty, King George VI of England. Toasting the King is done at the end of the meal after the table is cleared and before coffee and cigarettes are served. Port wine is used.

We made a general view just as the formal toast was given but arranged to have re-enactments for the close-ups since we had only one camera on the job. For a final shot we made a full close-up of the portrait of the king.

This impressive custom of Toasting the King told convincingly the story of that great binding force that holds the British Empire together throughout the far corners of the earth. For our "Going Places" travelogue it was like a trademark which unmistakably stamped our product "A Little Bit of England."

Bill Daniels

(Continued from Page 8)

how it ought to be diffused, and all that. I thought I knew lighting pretty well myself, but let me tell you, I'm getting a college education in the art of precision lighting watching him light even the most commonplace shot!"

Daniels is an inventive fellow, too. He has started more than a few photographic trends and gadgets that have since become accepted practices in the industry. Characteristically, they're largely simple, commonplace bits of logic which, once you see them applied, make you wonder why you didn't think of them yourself.

One of them was his celebrated bicycle-horn. It began several years ago, when he was filming (as he did for some fifteen unbroken years) one of Greta Garbo's productions. In that troupe, as in most others, while the Director of Photography lights the set, the stand-ins take the places of the principal players, who in turn take it easy in their dressing-rooms. When the lighting is completed, the cinematographer usually passed the word verbally to the director, who in turn sent an assistant to summon the stars for final rehearsals and the actual "take." But this verbal word-passing took time, and added a note of confusion to the otherwise orderly routine of production.

So Bill bought a bicycle-horn, and attached it to his camera-blimp. Then when his preliminary work was over, he could simply reach up and squeeze the bulb, and a few peeps on the horn gave everyone the signal at once. The stand-ins would step out, Miss Garbo would take her place before the camera—and production would go on with a minimum of confusion. Soon cinematographers in most of the other major studios had fitted their cameras with similar hooters. But about that time, Daniels discovered the drawback of that horn system—in his case, Greta Garbo's sense of humor. When she felt the waits between scenes were too long, she took pleasure in stealing up behind Daniels—and squawking the horn herself!

Soon after, Daniels originated the "peeping microphone." Often a Director

of Photography finds it helpful to survey a set through the camera's focusing ground-glass, the while giving instructions to electricians, players, and others. But when his head is buried in a sound-proof camera-blimp, even the loudest voice won't carry far. And Bill Daniels hates to raise his voice.

So he persuaded the sound department to install a small microphone inside his blimp, with an amplifier and loudspeaker mounted on the outside. Then, when he was peeping through his camera, he could issue instructions to anyone on the set quickly, easily, and intelligibly, no matter how large or how noisy the set might be. Again, similar gadgets blossomed out on cameras in almost every other studio.

Most recently, Bill has added a new gadget to his camera. Like many another cinematographer, he finds it useful at times to mount a few lamps on his camera for front-lighting close shots. At present, using Super-XX, he employs two—sometimes three—"dinky inkies" and occasionally a miniature "broad."

Now when you have two, three or four lamp-cables—to say nothing of the loudspeaker power-line and the camera's motor-feed cable—trailing from a camera that is to be making an involved dolly-shot, your crew has a most confusing mass of spaghetti to keep untangled.

So Bill decided to simplify the spaghetti situation. In a convenient spot at the side of his camera-head he has mounted a six-outlet electrical junction-box. Into one outlet he plugs a power-line. Into the remaining five, he connects short feeder-cables leading to his amplifier, his lamps, and any other electrical accessories he may need. Recently, while making retakes of a high boom-shot, he wanted to make a last-minute check on the scenes he was to match. His assistant passed up to him the light-tests of the scenes involved, together with the illuminated light-test viewing-box. Twenty feet in the air, Bill calmly plugged the light-box's feeder to his mobile supply-panel—and without further fuss or confusion compared his lighting set-up with the scenes he was to match!

Night-Effects

(Continued from Page 11)

comer, is named "Pan-K," after that firm's pioneer emulsion of the type. But it, too, is vastly improved from its predecessor of years ago. It is perhaps the fastest of today's infra-red emulsions; it requires only moderate filtering, and can be made to yield the high-contrast results sometimes necessary in night-exterior background plates and other night-effects.

Thus it can be seen that each of these products fills a special need in modern dramatic cinematography, and as such forms an invaluable adjunct to modern camera work.

From tests made by the writer and others, it seems clear that where light-

conditions are favorable, permitting exposures on the order of f:4.5, and the effect desired is one of comparatively soft contrasts and gradation, the Agfa product offers an ideal choice, as such recent productions as "Arizona" prove.

Where a slightly higher contrast is desired, and especially where a normally dark rendering of foliage is paramount, Infra-D presents particular advantages. Tests thus far made indicate this film does best with an average exposure (under normal conditions) approximating f:5.6. It is understood that emulsions somewhat faster than the one tested have since been produced.

Where light-conditions or any other factors call for higher speed or smaller lens-openings, the Pan-K product is certainly the choice. Under normal conditions it may be exposed at around f:8 and still give a negative with excellent shadow-detail.

Thus we have that rare—and extremely desirable—situation in which three ostensibly competitive film products do not in reality compete with each other, but instead supplement each other to a remarkable degree, each offering the alert cinematographer a specialized film for special conditions. Such a circumstance is always to be desired, but nowhere more than in a field where at best there are such technical complications as are found in making filtered exterior night-effects.

It must also be pointed out in any discussion of the night-effect problem that many cinematographers find there are certain situations in which none of the various infra-red products will give him precisely what he wants. This is especially true in making filtered daytime night exteriors in which people figure prominently—especially certain players who dislike to wear the somewhat unnatural-appearing infra-red make-up, or even insist on wearing no make-up at all.

In this event, the consensus of opinion among cinematographers appears to be that the film manufacturers have provided yet another tool for solving the cinematographer's problem. This is in using a conventional panchromatic emulsion, suitably exposed and filtered with a night-effect filter like the 23A-56 combination. This treatment appears to give the most favorable results in really close work where the principal players and their appearance are involved. Either a production-type emulsion like Plus-X or one of the slower, outdoor-type films like Background or Background-X may be employed, as conditions and preferences may indicate. With understanding handling, there appears to be no reason why the closer shots cannot be made in this way, and successfully intercut with long-shots made on whichever type of infra-red negative may suit the occasion.

In view of all this evidence, it would seem very much to the cinematographer's advantage to familiarize himself with the modern range of materials for making filtered night-effects, so that he can

choose accurately the technique which will solve his immediate problems most easily and accurately. And certainly he should be grateful to the research chemists who have provided such a variety of tools for his work, and the spirit of American competition which has spurred them on to such achievements for his benefit.

South America

(Continued from Page 14)

the world. I was very much amused while watching one director working. He had clipped an illustration from a well-known American fan publication. With this in his hand, he was most meticulous in placing his characters exactly in the same positions as illustrated in the clipping! The majority of the Argentine films snow definitely from which films certain sequences are lifted. I remember one particular film that was made up of three different thirds of three different Hollywood films! Please understand that this does not include *all* of the Argentine directors. There are several who have shown real ingenuity. One in particular has shown great talent, with his first production. Some of the others show their genius by turning out first rate films with a very limited budget.

The "luminador," as the first cameraman is called in South America, is usually European. One of the best is a Swiss. There are two or three Germans, a few Frenchmen, a few Spaniards, two Americans, and there was one Czechoslovakian, who has since left. Lately, a few natives have obtained assignments, but as yet have not shown great talent. Most of the operative cameramen are natives, as are the assistants and the other studio employees.

Almost all the sound-men are natives. From whence these sound-men have come, I do not know, but they have succeeded in spreading a deep veil of mystery around the art of sound-recording, creating the impression that a sound-man is a specially endowed person with some mysterious eighth sense. There is absolutely no cooperation between the studios, and there is a feeling of animosity between the employees of the various producers, much as existed in this country before the organization of professional groups like the A.S.C.

Up to the time I left, there was no organization of the studio employees. The aloof attitude makes this difficult. Except among the extra players, most of the film people seemed satisfied with the conditions. There is no fraternal sentiment or feeling of good fellowship, as found among the workers of the United States film industry. I found congenial company among the Americans in Buenos Aires, and among the Newspapermen and trade-paper writers.

Before closing the Argentine chapter, I must say that I left Buenos Aires in the fall of 1939. Since that time, some improvements may have been introduced. However, I believe that the basic conditions are very much the same. Long-

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used methods to which they have become well accustomed, are not quickly discarded. The old school has erected a fortress, in fear of new methods, and these walls are not easily scaled.

Having completed my contracts, the old "Wander Bug" came out of dormancy to do his dirty work. It's about time I went home to see Mom and Pop again. I came down by the East coast, so I'll go back along the Pacific coast to see what those countries look like.

Arrived in Santiago, looked around a few days, and as I have said, I was offered a contract to produce and direct films in Chile. So my homeward trek is delayed a while. This was certainly

virgin territory. No studios and no regular producers. Several feature films have been produced, but the producers make one film and then throw up their hands. There are two sound-recording equipments, a couple of Bell & Howell cameras, an Eyemo or two, and a few DeVry spring jobs.

In order to obtain a fair quality picture, I set up my own laboratory, using a celluloid apron with 500 foot capacity, made by Correx. I was fortunate in having access to a good automatic step-printer and a very well built non-slip sound printer.

I soon found that I would have to handle every foot of film with my own

hands, or stand and watch over my assistants every second. Native labor will follow instructions only as long as you stand vigilant over them.

Of the two sound equipments, one is native-built and owned jointly by a radio-station operator and a manufacturer of sound reproducer equipment. The manufacturer, a precision machinist, built the mechanical parts of the equipment, while the radio-owner built the amplifier equipment. They personally operate the equipment. Recently, they installed one of the Berndt galvanometers. Previously they used a German-made Siemens galvanometer, but the war has precluded obtaining replacements.

The other sound equipment is operated by the local RCA representative. The truck is in charge of a young fellow who turns out a first class job of recording.

The greatest handicap to the Chilean producer is the laboratories. There are a few rack-and-tank laboratories, which could turn out better work if they would take the care necessary.

There is a government-owned laboratory, which was organized ostensibly to produce educational films for the Chilean schools. As they have gone into competition with the private producers, and are not producing educational films, there is quite a hue and cry about them at the present time. They have gone in quite heavily on the production of commercial films, on which the private producers have been living heretofore.

Up to the present, the features that have been produced have had to work under very limited facilities. In spite of these limitations, the results are quite good. Exteriors make up a good portion of the films. When interior sets are required, all kinds of makeshift facilities have been put to use.

The stage of the municipal opera house was used for one film. Another producer used an old "haunted" house on the outskirts of the city, finding its magnificent large halls a great advantage. The studios of the radio stations are used very often. The producer of one recently released film has begun construction of a studio. He will use the rental facilities available, at first, equipping it permanently after the industry has become somewhat stabilized.

American Kodak and German Agfa materials are used, in about equal popularity. Eyemo 100-foot spools are available only on order placed six to eight weeks ahead. The Kodak agent stocks Plus-X negative, Sound-Recording stock, and Positive stock only. If you want Background-X or any other stock, you have to order it in advance. A very congenial fellow, he offers every accommodation at his command, and the Agfa agent is also very accommodating.

A few words of advice to anyone who might be considering a South American trip for the purpose of working and making films. If you are the kind of fellow who needs all the refinements and facilities of Hollywood, forget South

America. If you have the experience, and can produce films with practically no facilities except a camera and a tripod, if you can take apart and reassemble your own camera in event of any trouble, if you are satisfied with a decent living, but not a luxurious one, and you have the patience of Job, go to South America. You won't get rich, but you will enjoy yourself. Be prepared to do most of the work personally.

The most important thing to remember, regardless of where you travel, or for what purpose, **WHEN YOU ARE OUTSIDE OF THE UNITED STATES, YOU ARE THE FOREIGNER.**

Film Speeds

(Continued from Page 17)

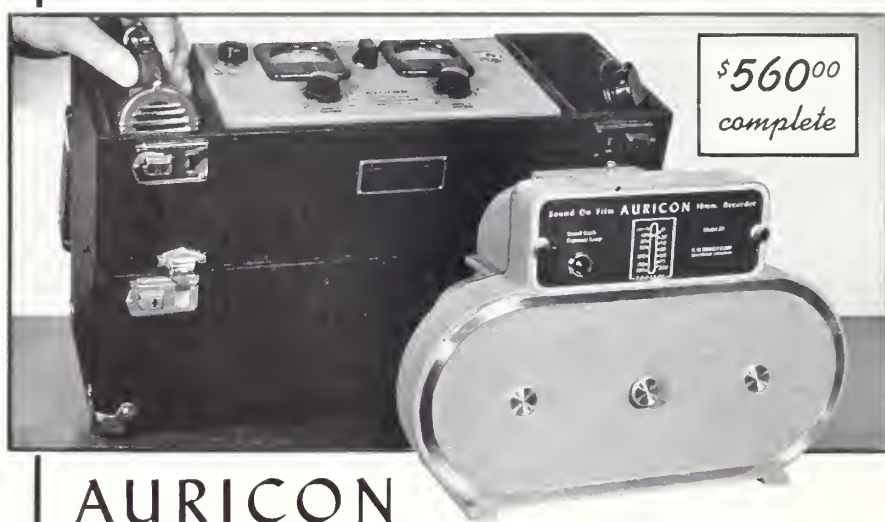
certain constants from the characteristic curve. In the making of a characteristic curve the photographic material is given a series of exposures on an instrument known as a sensitometer. In this instrument the spectral quality of the radiation and the time of exposure are made to match the average conditions in photographic practice as closely as possible. The exact shape of the curve is influenced by the type of exposure and development used, making it imperative these conditions be exactly those for which the characteristic curve is intended to apply. Usually the finished sensitometric strip looks like a series of gray areas.

After the sensitometric strip has been exposed and processed, density of each of the exposed areas is measured by a densitometer. A typical characteristic curve is shown in Figure 1.

In Figure 1 an attempt has been made to illustrate how the sensitometric method operates. At the top of the figure is a series of prints made from the negatives shown immediately below them. A series of exposures was given so that a range from badly under-exposed to very dense negatives was obtained. The best possible print was then made from each of the negatives. It will be noticed that as the negative exposure increases the resulting print quality increases rapidly to a high value and then remains substantially constant for further increase in negative exposure. The speed of the material is determined from the negative exposure required to yield the first excellent print.

The characteristic curve for the negative material used is shown in the lower portion of the figure. The slope, or gradient, of the curve at any given point indicates the rate of growth of density with change in log exposure and thus shows the difference in photographic effects resulting from a given difference in scene brightness. It will be seen that the gradient produced by the photographic material differs with the exposure.

In the illustration the negative which produced the first excellent print was so exposed that it used the portion of the characteristic curve indicated between the log exposure values A and B.



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The average contrast of the negative is indicated by the slope of a line drawn from the lightest to the densest part of the negative which in this case is the line CB. Since the characteristic curve does not have a straight line throughout the range of densities covered by the negative the gradient varies from one part of the negative to another, the lowest contrast being in the shadow region of the picture as indicated at C.

It has been found, as a result of a comprehensive research, that if the gradient in the deepest shadow portion is .30 of the average slope for the entire negative, the negative is capable of yielding an excellent print. If the gradient for the deepest shadow is less than .30 of the average slope of the negative, inferior prints will result. Thus it is evident that the concept of speed, namely, that speed is related to the minimum exposure required to give a negative from which an excellent print can be made, is equivalent to the sensitometric criterion that the gradient for the dark-est portion of the subject shall be .30 times the average gradient of the negative.

This method of determining speed has been substantiated not only by the statistical fact that sensitometric results agree excellently with those found by actual picture-taking practice but by theoretical considerations as well. Since the quality of a photographic print depends upon the manner in which brightness differences have been recorded by the negative and the print materials, it is clear that any method for properly evaluating speed must be based upon the ability of the material to record brightness differences. The new method in laying emphasis on the gradient characteristics of a material, is distinctly superior to the previously-used methods for determining speed.

As mentioned before, the shape of the characteristic curve is dependent upon the exposing and processing conditions used. The light source used is that adopted by the International Congress of Photography in 1928, and consists of an incandescent lamp filament operated at a color temperature of 2360 degrees K and screened by use of a specified liquid filter to give radiant energy of a quality closely approximating that of mean noon sunlight.

The development of roll films and film-packs is carried out in a metol-hydroquinone developer approximating that used in photo-finishing houses of the United States. The developer specified for the miniature-camera films is a slower acting developer and is widely used in the processing of miniature-camera negatives.

For testing purposes the developer agitation must be equivalent to that obtained by a hand-agitated Dewar flask fitted with a device for holding the exposed sensitometric strip. All materials are developed to a specified degree of contrast rather than for a fixed time.

The present publication deals only with a method of determining speed of

a specific sample of photographic material. As yet the details have not been worked out for applying the method to the assigning of a speed number to a product as a whole. The latter phase of the problem is being considered and no doubt some recommendation will soon be available.

Another important phase of the speed problem is the determination of recommended exposures for normal picture-taking practice. It is clear that the present specifications are not quite adequate for this problem since they indicate the minimum exposure required for excellent results only for a specific piece of material when used under a specific set of handling conditions. Recommended exposures must take into account variations in processing, in film sensitivity, in the measurement or estimation of scene brightness, and similar variables which cause the user to obtain slightly different effective exposures than what he expects. The average consumer must use an exposure-value which includes a margin of safety such that he is assured under all conditions at least enough exposure to produce excellent results. Such information can be used either in the form of printed exposure guides or in connection with exposure meters.

Thus far the committee has not had an opportunity to give serious consideration to the details of this problem of determining recommended "calculator numbers" or "meter-setting values." It is clearly recognized, however, if the whole photographic industry is to derive maximum benefit from the standardization project, that specifications must be drawn as soon as possible to extend the method for measuring speed of a specific sample to the assigning of a speed number to a product as a whole.

Viewer

(Continued from Page 27)

stores for from \$25.00 to \$45.00. I understand that the Eastman Company has discontinued service and parts some years ago, but if care is taken of the mechanism they will give many years of service.

A more modern viewer and sync machine has been recently installed in the cutting room of the Pacific Laboratories. The old Model A "War Horse" has since been retired to my own home for such cutting that I may want to do away from the plant on my own films.

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Micro-Movies

(Continued from Page 24)

can try the more powerful lenses. Experience will also show that magnification can be materially increased by increasing the distance between the microscope's lens and the frame-aperture of the camera.

Let me say right here that it is the microscope lens that does the work of making the picture. The camera's lens should be removed. Just as a telephoto lens replaces the camera's regular lens for extreme long-range shots, so the microscope's lens will replace it for these extreme short-range shots.

The average focal length of a cine-camera-microscope combination may vary from twelve to twenty inches or even more, depending upon the characteristics of the lens used in the microscope.

Therefore, just as in using any long-focus lens on your cine-camera, it will be necessary to provide a light-tight, tubular extension between camera and lens. The barrel of the microscope forms only part of this. The rest must be provided by a tubular collar which at one end fits into the camera's lens-mount exactly as a regular lens would, and at the other end fits into or over the upper part of the microscope's tube, usually over the ocular or eyepiece, the lens of which is removed.

These collars can be made very easily; their exact dimensions must naturally depend upon the type of camera and microscope used, and upon the focal length of the microscope lens. It is a very good idea if possible to have the microscope end of the collar so made as to give a sliding fit, to permit focusing adjustments, supplementing the regular

focusing adjustment of the microscope-lens.

In my own case, the microscope-adapting collars used were specially made by Bell & Howell. They were made of strong aluminum, machined at one end to an inside diameter to receive the end of the microscope eyepiece, and threaded at the other to fit into the camera's lens-mount. They were painted a flat black inside, to eliminate internal reflections. Their cost was nominal.

It is best to remove the lens from the microscope's eyepiece, whenever this is possible. When a demonstration or beam-splitting eyepiece is used, the upper viewing lens should be removed, while the right-angle one should be left, to serve as a monitoring finder. The use of this type of eyepiece is very necessary when filming some of the livelier forms of micro-organisms like the paramecium, which wanders uncertainly about the field like a streamline car out of control. When using this type of eyepiece, the exposure must naturally be increased to compensate for the division of light through the prism.

Another fundamental point in micro-cinematography is conservation of the light used to illuminate the tiny subject, especially in the case of living organisms. To put it differently, the cine-micrographer must think in terms of the welfare of his actors. A drop of water, blood or culture-solution on a microscope slide does not take a great deal of heat to bring it up to the boiling-point—and if you'll recall the life of Pasteur, you'll remember that Pasteurization, which kills most bacterial and similar micro-organisms, consists simply of subjecting things to a temperature considerably less than the boiling point of water. And any light source used for photography radiates with its light an embarrassing proportion of infra-red or heat rays.

Therefore think in terms of the camera to the "bugs," rather than the "bugs" to the camera. Use the least light you can, to insure the health of your minute actors and yet insure a reasonably well-exposed film.

What type of light should one use? In some microscopic laboratories carbon-arc spotlights are used to illuminate microscopic studies. This light is usually very powerful, and is quite satisfactory for black-and-white camerawork. However, it is rather too strongly blue for most Kodachrome work, and in addition it has the additional drawback for motion picture use that the light flickers as the carbons burn away.

The writer discovered that for his own Kodachrome micro-cinematography a very suitable light-source was provided by the ordinary Photo-flood lamp, suitably housed and shining through condensing-lenses that concentrate its beams on the sub-stage mirror of the microscope. While I have not had any opportunity to try it out in practice, it seems likely that one of the new "dinky inky" midget spotlights, fitted with a suitable concentrating snout, would be excellent for this sort of work.

Control of exposure must be done by varying the strength of the illumination,

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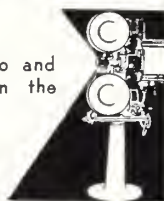
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since the camera's lens and its diaphragm have been removed. This can be done in one of several ways. One of the simplest methods is simply to move the light nearer to or farther from the microscope, letting the old law of inverse squares do the trick.

Another way is to increase or decrease the strength of the light by means of a rheostat. This is quite satisfactory in black-and-white, but not so good in color, since the light grows redder as it is dimmed.

Still another method is to interpose an iris diaphragm between the lamp and the microscope. This is one of the best methods I have found, since it can provide a very accurate control. Some microscopes are fitted with a diaphragm of their own, placed directly under the stage. This can be used for exposure-control, but I prefer to use an auxiliary diaphragm at the light itself. You will often find that you will get the most critically sharp results if you set the sub-stage diaphragm at its smallest stop, and thereafter leave it alone.

The matter of exposure is best settled by practical experiment. In my own case, I found that it was one place where a Weston exposure-meter for once didn't give me much help. The best advice is to make test shots under various light conditions, carefully noting down the data concerning each in a notebook. Make a wide range of exposures, shooting only a few frames of each, with a black frame or two between each exposure-test. Send the film to the processing laboratory, and after carefully examining the results, you will easily see what is the proper lighting set-up for that particular subject. Incidentally, you will find that exposure varies according to the subject: a subject that has a great deal of rather solid matter will naturally be more dense, and require more light than one that is comparatively clear, with only a few tiny crystals or micro-organisms in the field.

What type of film to use is a matter of preference guided by one's pocket-book and by the type of subject being filmed. It is true that black-and-white offers wide latitude in the choice of emulsion-speeds, and perhaps in cases where for any reason lighting or exposure are critical factors, these high-speed films may be an advantage. But let it be remembered that these super-speed films usually have a rather coarse grain, which does not adapt itself at all well

to really fine micro-cinematography.

In almost all cases, I believe Kodachrome is by far the best film to use. It is not by any means the fastest film you can get, though Type A Kodachrome, with its Weston rating of 17 to artificial light, is certainly among the average-speed group. But using Kodachrome, you get color, which enhances both the pictorial and the scientific values greatly.

Christmas Camera

(Continued from Page 22)

most home movie cameras are supposed to be hand cameras. Literally, they are, for most of them are light enough to be held in the hand during filming.

But if you want really good movies—even with the lightest and smallest of 8mm. cameras—forget that "hand camera" advertising. Spend a few dollars and buy a tripod; it doesn't have to be the biggest or swankiest—just a good, rigid foundation for your camera. Then your pictures will be steady on the screen—and infinitely more pleasant to look at.

And while we're considering the camera as the eye of the audience, let's get in the habit of realizing that we can make it see whatever is most important in any scene by the simple expedient of bringing the camera closer to that object.

If you're making a picture of Junior at play, begin with a full length shot that shows all of the youngster, what he's doing and where he's doing it.

Then make additional shots, each time coming closer to him, until you wind up with a full-screen close-up that excludes everything except what he is doing, or—if the boy himself is most important—his face and expression.

One of the worst faults of the average amateur movie is its lack of closeups. You see someone on the screen; you know he (or she) is doing something interesting—but you never get a good look at the details. The same applies to shots in which the person is the most important factor; a long-shot of Hedy LaMarr may tell you she's a pretty girl with a nice figure—but only a closeup can prove how really beautiful she is!

Another thing that is vitally important is to make your scenes long enough. Dr. Einstein's celebrated theory of relativity certainly is demonstrated in home movie making, for somehow time passes

at entirely different rates when you are standing with your camera in hand, pressing the release button, and when you are sitting beside the projector watching the scene unroll on the screen!

What seemed a young eternity in the photographing often turns into the briefest flash in the screening.

Of course, if you are photographing some specific action you can solve the problem by simply shooting till the action is finished, or till the camera runs down. (Incidentally, it's a good thing to

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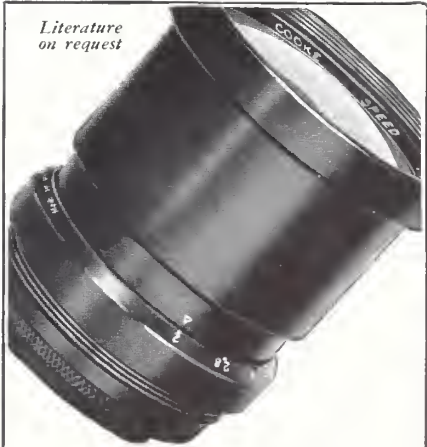
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get the habit of rewinding the camera after every scene, no matter how short!)

Otherwise, count the seconds to yourself, and allow at least ten seconds (fifteen is safer, since you'll probably count too fast!) for every scene. After all, if your scene is too long, you can always shorten it with a pair of scissors; but if it is too short, there's nothing anyone can do about it.

While you're mastering these basic details, you can make things a lot easier for yourself if you stick to one kind of film. One look at your dealer's shelves

will convince you that there is a bewildering variety of 16mm. and 8mm. films on the market, especially black-and-white film. All of them are good; each has its special advantages for definite types of picturemaking.

But while you're new at this movie-making game, you're more interested in getting consistently adequate pictures than in making these finer distinctions. So while you're mastering the rudiments of moviemaking, do it from the secure foundation of using one familiar type of film for everything. Experimenting with different films and their effects can come later.

Speaking about your dealer's shelves, another good plan is to get acquainted with the dealer himself. He's likely to be a pretty good fellow, who can give you plenty of useful advice. So make a friend of him.

And for safety, stick to one dealer while you're learning; for dealers, like anyone else, have their enthusiasms, and if you go "shopping around" for advice from several of them, you may wind up in a maze of slightly varied opinions, each sound enough in itself, but sufficiently conflicting in the aggregate to confuse the beginner.

Finally, if you really want to progress in this hobby of moviemaking, fraternize with other folks who have been following the hobby longer. The best way to do this is in an amateur movie club. In most cities today you'll find at least one club—sometimes more. Your dealer can tell you if there's a club in your town, and how to go about becoming a member of it.

By all means, join it and attend its meetings. There you will see the films made by men and women who are more experienced filers than you, and hear them tell how they did it. You'll have ample opportunity to ask them questions, and they'll gladly help you improve your picturemaking.

Then, almost before you know it, you'll find younger filers asking *your* advice—and you, too, will be an old hand. What's more, you'll have had a lot of good pictures and a world of pleasure!

Idea Exchange

(Continued from Page 29)

held together with small screws and countersunk nuts, while as an additional safeguard, the cover of the magazine is sealed with black tape. Remove the tape, and such of the screws as are necessary to permit you to remove the cover of the magazine without bending or tearing the metal magazine.

Once you've got the magazine open, you will see that the metal guides inside the magazine, which guide the film past the photographing aperture, are in the way, so remove them, leaving only the front aperture. A section of the back end of the magazine must also be removed—preferably cut away with tin-snips—to give a clear line of vision from the aperture through the back.

At the aperture, it will be necessary

to provide a small ground-glass screen for focusing. This should be a bit larger than the aperture itself. For this, I used a piece of the thin cover-glass used for mounting microscope slides.

To produce the ground-glass surface, I mixed a rather thick solution of ordinary household cleaner and water, placing it on the hard, level surface of a kitchen sink. I put my glass over this and, without exerting too much pressure, rubbed the glass in this solution until one surface took on a smooth, ground-glass finish. I dried it carefully, and inserted it in the magazine's aperture, with the frosted surface toward the lens. I held the glass in place with Scotch tape, as shown in the sketch.

Finally replace the cover on the magazine—and if you've been careful in mounting your ground-glass and in smoothly trimming out the back end of the magazine, you'll have an excellent emergency focuser. If you want a magnified image, you can have your local optician cut down a dime-store magnifying-glass to the right size, and mount it at the appropriate point above the ground-glass.

PAUL R. NELSON.

Contest Picture

(Continued from Page 23)

audience—and especially contest judges—can't be expected to give you credit for cleverness.

This is particularly bad if you suggest a point with obvious possibilities for comedy or drama—and then fail to follow through. Like the popular song of a year or so ago, you're "building up to an awful let-down."

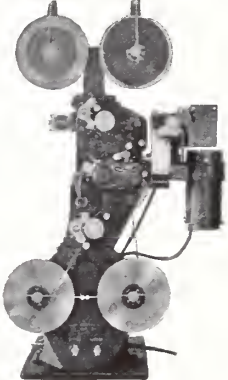
I noticed this in many recent contest films viewed during the last few weeks. One, for instance, was based on the amusing idea of hubby being left to do the washing, and not knowing how to do it. He was clearly seen emptying carton after carton of washing powder into the family washer, and following it with half-a-dozen cakes of soap. The audience naturally prepared itself for a volcanic explosion of soapsuds—overflowing everything and everywhere.

But it didn't come.

In this particular case, one can't well blame Mrs. Moviemaker if she vetoed what would be undoubtedly a very messy scene in her nice, clean laundry. But it gave the picture a tremendous black eye as far as entertainment value and contest chances were concerned.

Similarly, if you have a point to get over, be sure you do it clearly. Another recently viewed scenario film hinged on having several members of the cast eat poison, and ultimately die. But as the film was observed on the screen, one had no way of telling that the people were in pain, and later, whether they were reduced to corpses—or just oversleeping. That impression of vagueness has marred many an otherwise creditable job of moviemaking.

Amateur scenario moviemaking is most nearly comparable to writing short stories. In this field, the late O. Henry



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is universally acknowledged as supreme. Much of his success is based on the use of cleverly twisted surprise endings. You expect one thing to happen—and surprisingly something else, equally logical, but wholly unexpected, comes about.

O. Henry endings can add the necessary punch to almost any amateur scenario film. They're hard to evolve—but they're an almost infallible passport to success.

But in using them care must be taken in cutting the final sequences. Such endings depend for their effectiveness on speed and sudden surprise. If after the climax is reached, you drag your film out through a succession of conventional closing scenes, much of this effectiveness is lost. So—when you've socked the audience with the surprise pay-off (to lapse into the jargon of show business) slap on your End title quickly and get it over with!

It all winds up as a matter of cutting. And in many years of viewing and reviewing amateur films from over the entire world I've seen many a picture graced with good photography, story ideas, titles and continuity murdered by inept cutting. Many of them could have been shoved bodily into top-rank class by the simple application of a pair of shears.

On the other hand, I doubt if ever an otherwise good film has been harmed by close cutting; certainly, many of the best ones have owed their all to editing. So, if you want to make a successful contest film, brother, trot out the scissors and leave all mercy to the "also-rans!"

Movie Clubs

(Continued from Page 28)

Oliver Kaufman of the Goodman Theatre of Chicago's Art Institute; Pearl Belly of the Columbia School of Dramatics; Harry Dolson of the Actors Company of Chicago; William Brady, Program Director of Station WEDC; and Jack Emerald, Bernice Rubane and Hye Epstein of the Institute Players of Chicago.

Melbourne Shoots Comedy

Cinematheaters of Melbourne, Australia, are hard in production on a comedy, "Hired and Fired," the latest production of the energetic Victorian Amateur Cine Society, of which V. B. Alford is president.

As reported by Vice President J. F. Brooks of the Australian Amateur Cine Society, on the occasion of his recent visit to the Club's studio no less than 20 cine and still cameras were in action filming this remarkably ambitious comedy in the traditional Sennet-esque manner.

It is to be hoped American amateur audiences may some day have an opportunity to screen this latest example of the humor of their fellows "Down Under."

L. A. Cinema Club Elects

The Los Angeles Cinema Club, at its meeting on December 3, elected William Hight President, James E. Davis, Vice President and Jacques Shandler, Secretary-Treasurer for 1941. The feature of the evening was the Club's annual Contest, which this year was judged by the officers of the several other Southern California cinema clubs, including the Los Angeles 8mm. Club, the Southwest 8mm. Club, and the La Casa Movie Makers of Alhambra. The winner was Mrs. Mildred Zimmerman, with her film "A Wyoming Sheep's Tale." Second place went to Dr. Roy Gerstenkorn for his unique film of tropical fighting fish, "Tropical Ecstasy." President-elect A. J. Zeman of the Los Angeles 8mm. Club, on behalf of the judging committee, announced the winners and commented on each picture before it was screened.

Washington S.A.C. Shows Serial

The December 2 meeting of the Washington Society of Amateur Cinematographers instituted something new in cine-clubbing—a serial. But instead of the usual "cliffhanger" melodrama, this was a 2800-foot 16mm. Kodachrome film of a trip around the world made by member H. P. Baines. The first installment—New York to Rio de Janeiro—was shown at this meeting, with further chapters slated for future sessions.

San Francisco Elects

The Annual Banquet-meeting of the Cinema Club of San Francisco was held December 17th, at the Women's City Club. At this meeting, the following officers were elected for 1941: John Smurr, President; E. L. Sargeant, Vice President; Milton L. Dean, Secretary, and Russell A. Hanlon, Treasurer.

Screen feature of the evening was the presentation by Harry Downard of the Sacramento Movie Club of three of his prize-winning films, "Trangatofoo," "River Rhapsody," and "Genesis, Chapter I."

St. Paul Club Handles Museum Programs

The St. Paul Amateur Movie Makers had charge of two programs at the St. Paul Science Museum during October. The first program included a round-table discussion between members Mrs. O. N. Olson, Walter Gaymon, Floyd Oliver and Harold Edstrom. Immediately following Mrs. Olson's "Travel Holiday," winner of the Club's Harmon Trophy for the best Club film of 1939, was projected.

The second program featured a demonstration of filming a home interior scene by Floyd Oliver, Vic Enquist, Dona Miller, E. O. Sickie, J. E. Lucius, Hans Reuter, and Harold Edstrom. Immediately following the shooting of this scene, the film was projected, fully edited and titled—fast work or fast thinking on somebody's part!

Radio-station WMIN donated a 15-minute period to publicizing the project,

and members of the club, including Miss Agnes Marx, Irving J. Rice and President E. E. Bauman went on the air. The whole museum project was in charge of past-president Kenneth Hezzlewood, well known as a contributor to THE AMERICAN CINEMATOGRAPHER, who wrote the scripts for these programs and staged them with praiseworthy skill.

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Showcase

(Continued from Page 30)

continued as a regular Agfa-Ansco product for the current winter season. This kit includes two folding reflectors constructed of tough card stock. When in the open position, these reflectors are attached to common electrical fixtures by a metal adapter ring, two of which are included in the kit.

Also supplied in the kit are a convenient exposure calculator and a handy ten-foot folding rule to eliminate any need for guessing distances. Made entirely in the U.S.A., the Agfa Reflector Kits are available through photographic dealers at 25 cents each.

Midget Flashbulbs Stronger

Since the introduction of the "mighty midget" No. 5 Mazda flashbulbs by General Electric a little over a year ago, the illuminating power of these ping-pong-ball-sized flashbulbs has been increased nearly 30%. According to a GE announcement, the newest Mazda No. 5's are averaging 4000 more lumen-seconds than did the first Mazda mighty midgets. Peak intensity has been increased some 200,000 lumens.

Eastman Offers Two New Lectures To Movie Clubs

Two new illustrated lectures—supplementing the sixteen already available for loan to camera clubs—are announced by the Camera Club Photographic Service of the Eastman Kodak Company, Rochester.

The two deal with amateur motion picture technique and criticism, and are the first of a new series of special interest to cine clubs and cine sections of "still" clubs. Lectures in the regular "still" series of the Camera Club Photographic Service are used by hundreds of United States camera clubs every year, and are particularly useful to newly-organized clubs and those which have need of a steady, dependable program service without drain on the club treasury.

New Lecture No. 101, "What Can We Learn From The Professional Producer?" describes how the amateur can adapt certain working methods of the professional to his own needs. This 45-minute lecture is suitable either for beginners or advanced workers, and is especially appropriate at the time a club movie is being planned.

New Lecture No. 102, "How Good Is A Motion Picture?" outlines a model procedure for judging movies in cine club competitions. It logically follows No. 101, and may well be scheduled for the month succeeding. The time is approximately 30 minutes.

Each lecture offered from Rochester by the Camera Club Photographic Service includes slides or prints, and a complete text to be presented by a member of the club. Lectures are available without charge, except for return postage.

Academy Awards Committees Named

Committees to consider rules for the various technical awards of the 1940 Academy Award program, and to recommend detailed rules to be used to govern these awards have been appointed by Academy president Walter Wanger. Among them are the Cinematographic Award Rules Committee, made up as follows: Ray Wilkinson, Chairman; John Arnold, A.S.C., Joseph August, A.S.C., Norbert Brodine, A.S.C., Daniel B. Clark, A.S.C., Edward Cronjager, A.S.C., Arthur Edson, A.S.C., William Eglinton, George Folsey, Jr., A.S.C., Fred Gage, A.S.C., Merritt B. Gerstad, A.S.C., C. Roy Hunter, Thomas Ingman, Ray June, A.S.C., Sidney Lund, E. B. McGreal, George Meehan, A.S.C., Russell Metty, A.S.C., Virgil Miller, A.S.C., Victor Milner, A.S.C., Ira Morgan, A.S.C., L. William O'Connell, A.S.C., Emil Oster, Roy Overbaugh, A.S.C., George Robinson, A.S.C., Roy Seawright, George Seid, Karl Struss, A.S.C., Allan Thompson, A.S.C., Joseph Valentine, A.S.C., Joseph Walker, A.S.C., Vernon Walker, A.S.C., and Lester White, A.S.C.

The Special-Effects Rules Committee includes Farciot Edouart, A.S.C., Chairman; Fred Albin, Lionel Banks, James Basevi, John Cosgrove, John Fulton, A.S.C., Arnold Gillespie, Byron Haskin, A.S.C., Bernard Herzbrun, Kenneth Lambert, Harry Leonard, Louis Mesenkop, Jack Otterson, Elmer Raguse, Roy Seawright, Fred Sersen, Hal Shaw, James Stewart, S. J. Twining and Vernon Walker, A.S.C.

The Cherry Amateur Movie Club of Tokio, Japan, claims to be the largest movie club in the world. They boast over 1000 members.

Nylon For Wigs

Wartime conditions have played havoc with the importation of yak-hair, commonly used for wigs. Therefore MGM make-up chief Jack Dawn has been experimenting with the use of Nylon as a substitute. He reports the results are promising.

Temporary Splices

In editing film it is often helpful if one can observe the screened effect of cuts before making the final splice. This can be done by using a strip of Scotch tape $\frac{1}{8}$ inch wide and of length equal to the width of the film. Simply line up the two pieces of film and apply the tape, taking care not to obstruct the sprocket-holes. These temporary splices will stand several runnings through projector or viewer if the tape has been carefully applied at the leading end of the joint.

Cleaning Projector Gate

Often the aperture-brush used for cleaning the gate of a projector can cause rough spots and abrasions on the gate, which in turn scratch film as it is projected. A better method of keeping projector gates clean is to use a pipe-cleaner. In addition to being softer and safer than the average brush, the pipe-cleaner can be slipped into the gate more easily. Furthermore, these cleaners are so cheap a fresh one can be used every time.

Cleaning is more effective if done with the projector's motor running and the still-picture clutch thrown out, so that the current of air from the ventilating fan helps blow away the dislodged dust. Obstinate specks of dirt can usually be removed by soaking the pipe-cleaner in carbon tetrachloride.

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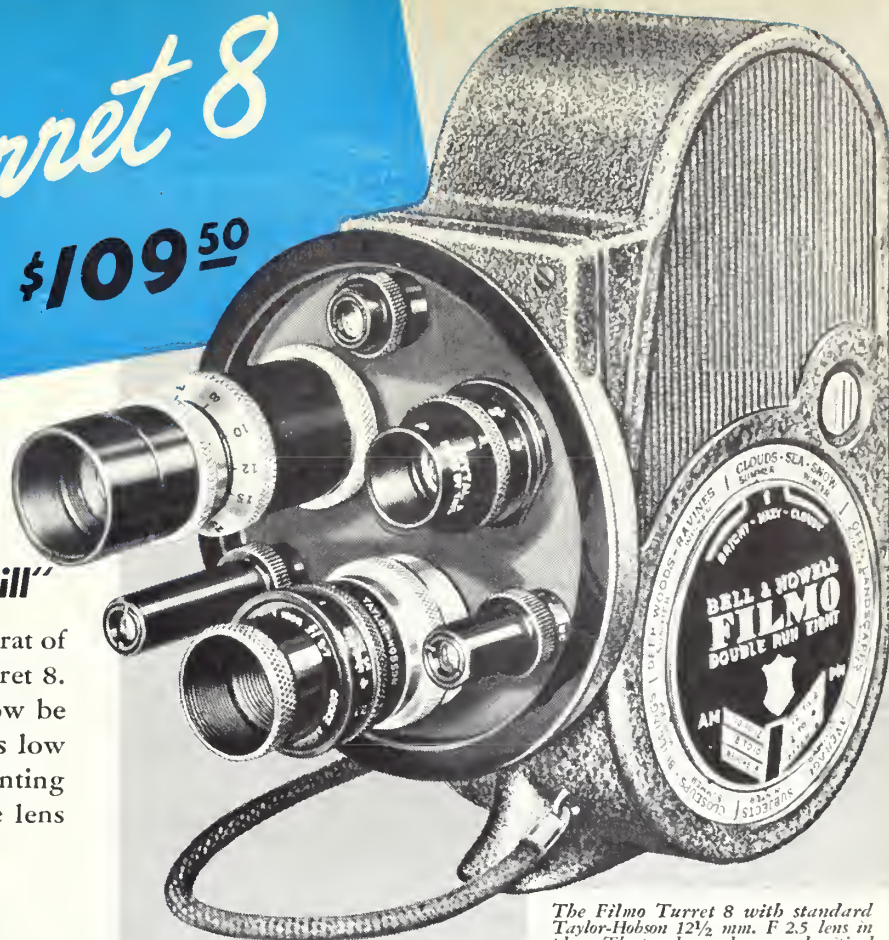
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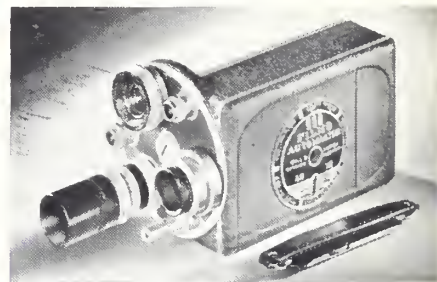
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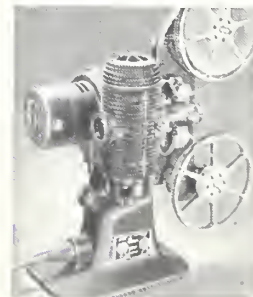


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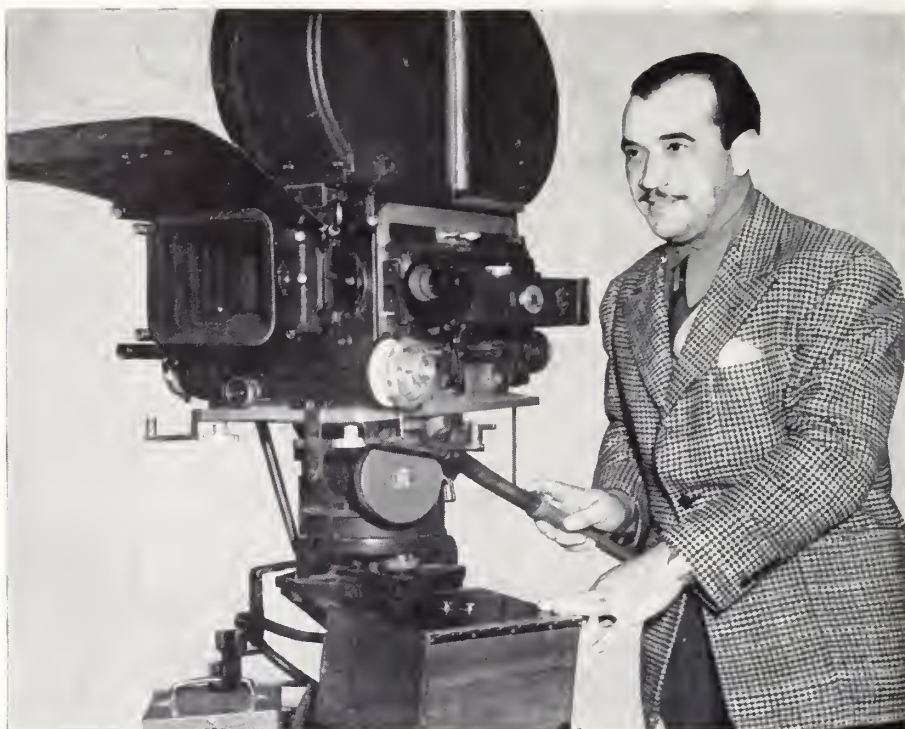
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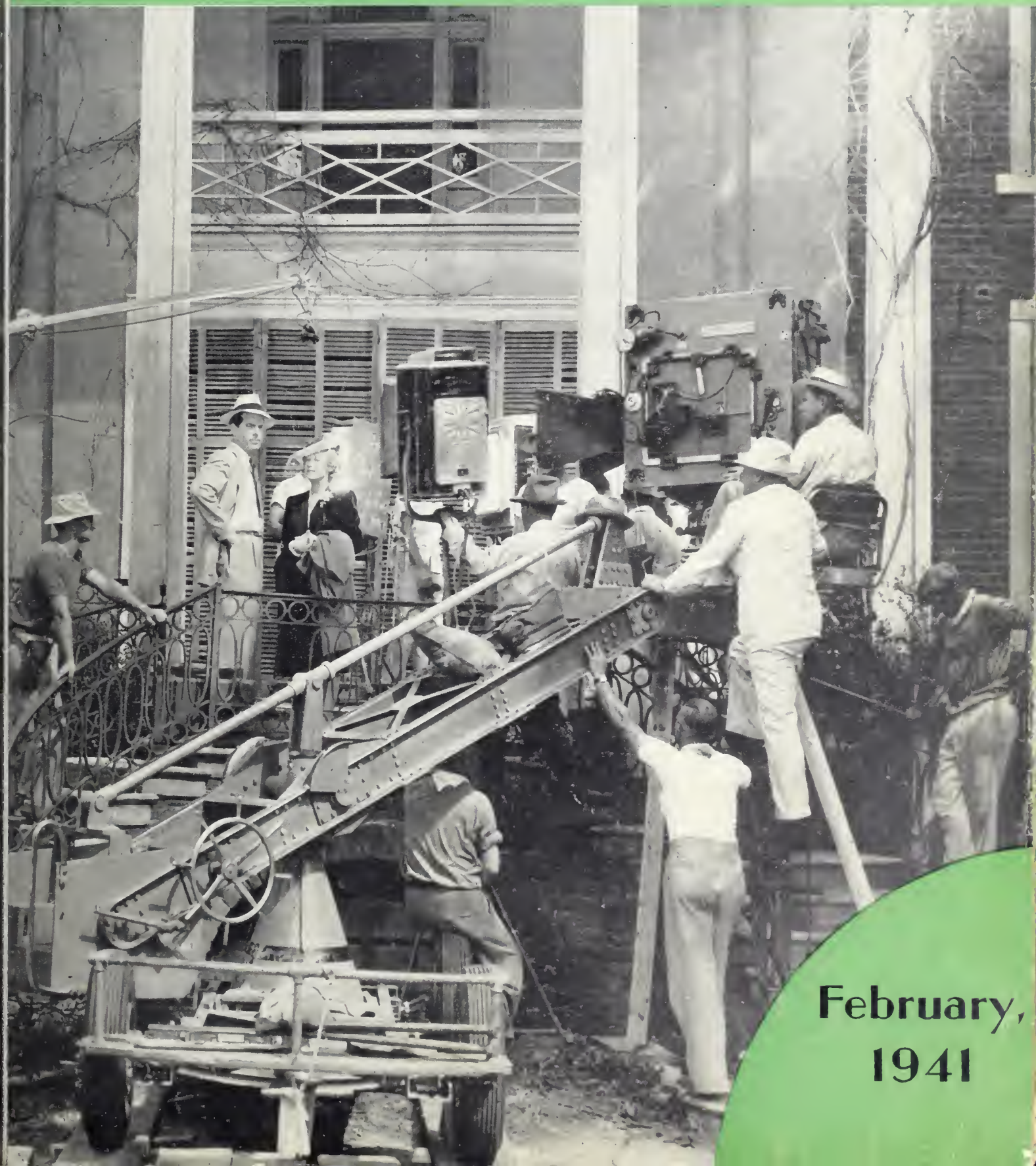
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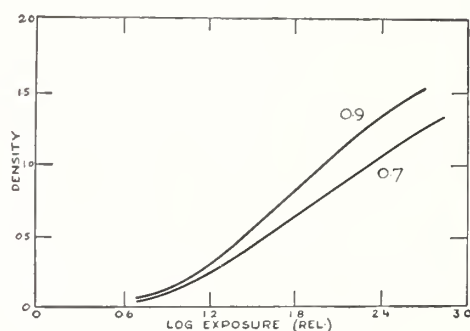
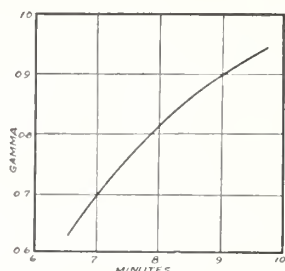
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25A	10.0	3¼
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12	2.5	1¼
15G	3.2	1½
56	3.5	1¾
3N5	4.0	2
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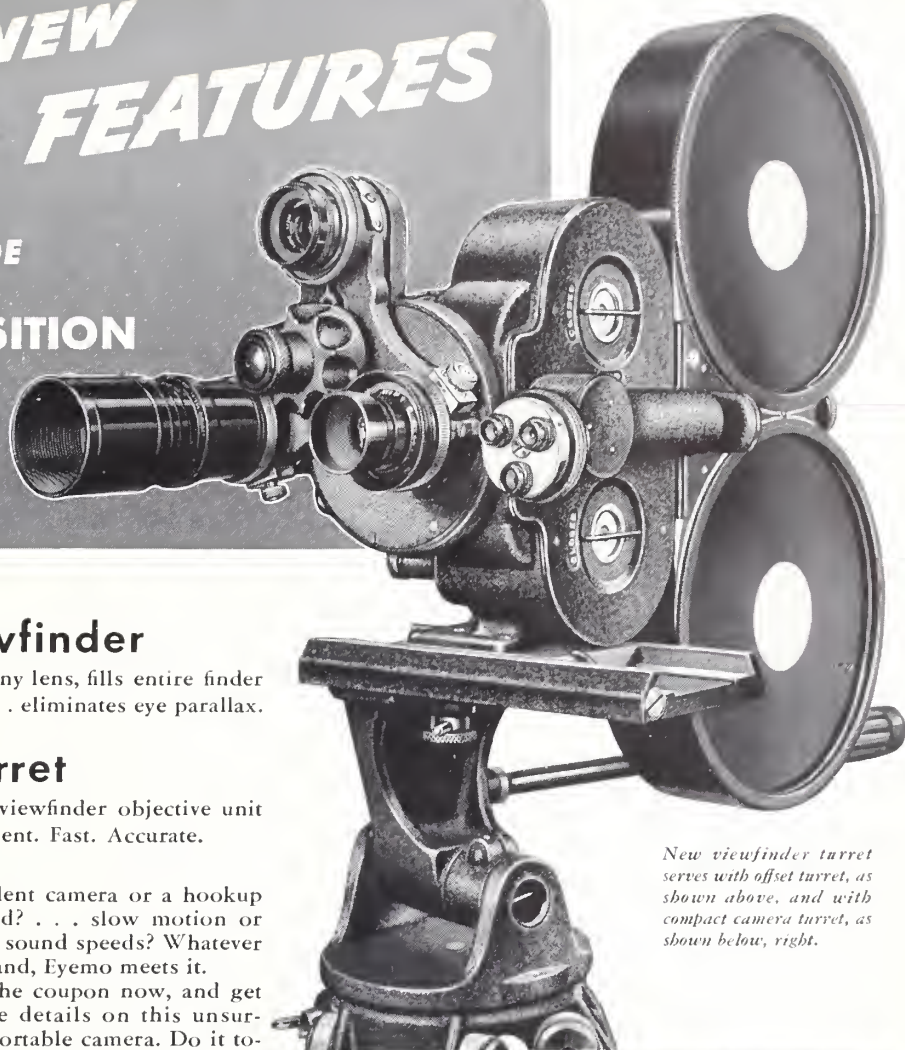
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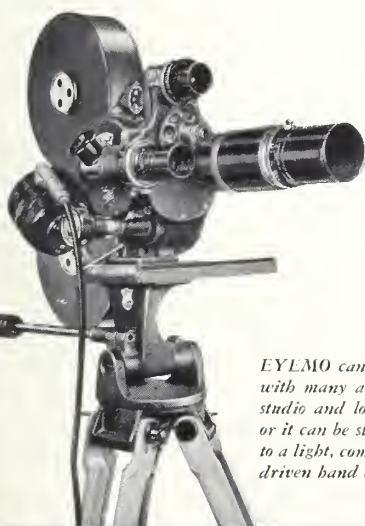
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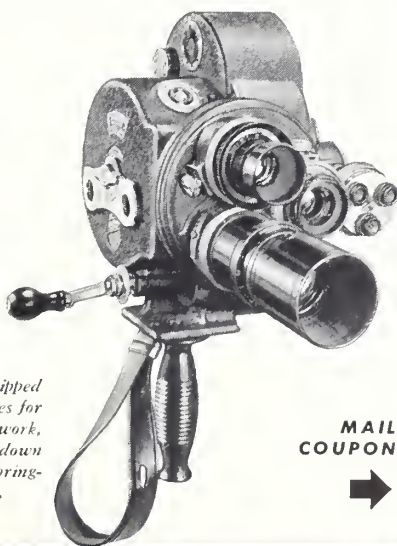
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The Front Cover

The cover this month shows Bert Glennon, A.S.C. and William V. Skall, A.S.C., Technicoloring a scene for Paramount's "Virginia," on location in that State, using as a set a mansion designed by President Thomas Jefferson. Note use of camera-boom to facilitate shooting actors on porch, and use of arc broadsides as "booster" lights. Still by G. E. Richardson.

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Realism for "CITIZEN KANE"

By GREGG TOLAND, A.S.C.

DURING recent years a great deal has been said and written about the new technical and artistic possibilities offered by such developments as coated lenses, super-fast films and the use of lower-proportioned and partially ceiled sets. Some cinematographers have had, as I did in one or two productions filmed during the past year, opportunities to make a few cautious, tentative experiments with utilizing these technical innovations to produce improved photo-dramatic results. Those of us who have, I am sure, have felt as I did that they were on the track of something really significant, and wished that instead of using them conservatively for a scene here or a sequence there, they could experiment free-handedly with them throughout an entire production.

In the course of my last assignment, the photography of Orson Welles' picture, "Citizen Kane," the opportunity for such large-scale experiment came to me. In fact, it was forced upon me, for in order to bring the picture to the screen as both producer-director Welles and I saw it, we were forced to make radical departures from conventional practice. In doing so, I believe we have made some interesting contributions to cinematographic methods.

"Citizen Kane" is by no means a conventional, run-of-the-mill movie. Its keynote is realism. As we worked together over the script and the final, pre-production planning, both Welles and I felt this, and felt that if it was possible, the picture should be brought to the screen in such a way that the audience would feel it was looking at reality, rather than merely at a movie.

Closely interrelated with this concept were two perplexing cinetechanical problems. In the first place, the settings for this production were designed to play a definite role in the picture—one as vital as any player's characterization. They were more than mere backgrounds: they helped trace the rise and fall of the central character.

Secondly—but by no means of secondary importance—was Welles' concept of the visual flow of the picture. He instinctively grasped a point which many other far more experienced directors and producers never comprehend: that the scenes and sequences should flow together so smoothly that the audience would not be conscious of the mechanics of picture-making. And in spite of the fact that his previous experience had

been in directing for the stage and for radio, he had a full realization of the great power of the camera in conveying dramatic ideas without recourse to words.

Therefore from the moment the production began to take shape in script form, everything was planned with reference to what the camera could bring to the eyes of the audience. Direct cuts, we felt, were something that should be avoided wherever possible. Instead, we tried to plan action so that the camera could pan or dolly from one angle to another whenever this type of treatment was desirable. In other scenes, we pre-planned our angles and compositions so that action which ordinarily would be shown in direct cuts would be shown in a single, longer scene—often one in which important action might take place simultaneously in widely-separated points in extreme foreground and background.

These unconventional set-ups, it can readily be seen, impose unsurmountable difficulties in the path of strictly conventional methods of camerawork. To put things with brutal frankness, they simply cannot be done by conventional means. But they were a basic part of "Citizen Kane" and they *had* to be done!

The first step was in designing sets which would in themselves strike the desired note of reality. In almost any real-life room, we are always to some de-

gree conscious of the ceiling. In most movies, on the other hand, we see the ceiling only in extreme long-shots—and then it is usually painted in as a matte-shot. In the closer angles, the camera seldom shows the ceiling, or even anything suggesting it. On the contrary, conventional interior lighting-effects, since the light is projected from spotlighting units perched high on the lamp-rails paralleling the sets, come from angles which would be definitely impossible in an actual, ceiled room.

Therefore the majority of our sets for "Citizen Kane" had actual ceilings. They were low ceilings—in many instances even lower than they would be in a real room of similar style. Furthermore, many of our camera-angles were planned for unusually low camera-setups, so that we could shoot upward and take advantage of the more realistic effects of those ceilings. Several sets were even built on parallels, so that we could take up any desired section of the flooring and place the lens actually at floor level.

This, as may be imagined, immediately created a very interesting problem in lighting. Since the sets were ceiled, not one of the 110 sets were paralleled for overhead lighting. With the exception of a few occasional shots for which we could remove a small section of ceiling to permit using a "Junior" or similar spotlight overhead for really necessary backlighting, everything in the picture was to be lighted from the floor.

With deep sets, this necessitated the use of light which would have great penetrating power. This was found in the twin-arc broadsides developed for use in Technicolor. These lamps formed the backbone of our lighting, supplemented of course with "Juniors," "Seniors," and 170-Amp. arc spots as might be necessary.

In passing, it may be mentioned that this technique of using completely ceiled sets so extensively gave us another advantage: it eliminated that perpetual



Gregg Toland, A.S.C., (center, back to camera) discusses a scene with Orson Welles (center, in shirt-sleeves.)



"Citizen Kane's" photographic problems. Left, deep, completely ceilinged set; right, extreme depth of field required: both man in right foreground and girl in left background had to be kept critically sharp.

bane of the cinematographer—microphone shadows! The ceilings were made of muslin, so the sound engineers found no difficulty at all in placing their mikes just above this acoustically porous roof. In this position, they were always completely out of camera-range, and as there was no overhead lighting, they couldn't cast any shadows. Yet the ceilings were so low that the mike was almost always in a very favorable position for sound pick-up. I must admit, however, that working this way for eighteen or nineteen weeks tends to spoil one for working under more conventional conditions, where one must always be on the lookout lest the mike or its shadow get into the picture!

The next problem was to obtain the definition and depth necessary to Welles' conception of the picture. While the human eye is not literally a universal-focus optical instrument, its depth of field is so great, and its focus-changes so completely automatic that for all practical purposes it is a perfect universal-focus lens.

In a motion picture, on the other hand, especially in interior scenes filmed at the large apertures commonly employed, there are inevitable limitations. Even with the 24mm. lenses used for extreme wide-angle effects, the depth of field—especially at the focal settings most frequently used in studio work (on the average picture, between 8 and 10 feet for the great majority of shots)—is very small. Of course, audiences have become accustomed to seeing things this way on the screen, with a single point of perfect focus, and everything falling off with greater or less rapidity in front of and behind this particular point. But it is a little note of conventionalized artificiality which bespeaks the mechanics and limitations of photography. And we wished to eliminate these suggestions wherever possible.

Now it is well known that the use of lenses of short focal length tends in

itself to increase the depth of field. So, too, does stopping down the lens.

Since the introduction of today's high-speed emulsions, some photographers and some studios make it a practice to take advantage of the film's speed by stopping their lenses down to apertures as low as f:3.5 or thereabouts when filming interiors. In some instances this is done only occasionally, when for some reason added depth may be desired for a scene or sequence; in others, it is a fixed practice.

To solve our problem, we decided to carry this idea a step farther. If using a high-speed film like Plus-X and stopping down to f:3.5 gave a desirable increase in definition, wouldn't it—for our purpose, at least—be a still better idea to employ a super-speed emulsion like Super-XX, and to stop down even further?

Preliminary experiments proved that it was. However, merely stopping down to the extent which would compensate for the higher sensitivity of Super-XX was still not enough, though we were clearly on the right track.

The next step inevitably was to stop down to whatever point might give us the desired depth of field in any given scene, compensating for the decreased exposure-values by increasing the illumination level.

This, especially on deep, roofed-in sets where no overhead lighting could be used, naturally created another lighting problem. Fortunately, two other factors helped to make this less troublesome than might have been expected.

First, we were using, as I have been for some time, lenses treated with the Vard "Opticoat" non-glare coating. In view of the considerable discussion that has arisen since the introduction of these treating methods, I may mention that so far I have found this treatment not only beneficial, but durable. Depending upon the design of the lens to which it is applied, it gives an increase in speed

ranging between half a stop and a stop, while at the same time giving a very marked increase in definition, due to the elimination of flare and internal reflections.

Secondly, due to the nature of our sets, and the lighting problems incident to our use of ceilinged sets, we were, even before we changed from Plus-X to Super-XX, making considerable use of arc broadsides. In addition to the greater penetrating power of arc light as compared to incandescent, this gave us a further advantage, for the arc is unexcelled in concentrating the greatest illuminating power into a comparatively small unit.

The use of these lamps made it possible to use considerably smaller lens apertures than would otherwise have been the case, while still keeping to satisfactorily low illumination-levels, and using surprisingly few lighting units. In many scenes, including even some in the big sets representing Xanadu, "Kane's" exaggeratedly palatial Florida estate, the entire lighting was accomplished using a total of only five or six units, including the arc broads and incandescent spotlights of all sizes.

It was therefore possible to work at apertures infinitely smaller than anything that has been used for conventional interior cinematography in many years. While in conventional practice, even with coated lenses, most normal interior scenes are filmed at maximum aperture or close to it—say within the range between f:2.3 and f:2.8, with an occasional drop to an aperture of f:3.5 sufficiently out of the ordinary to cause comment—we photographed nearly all of our interior scenes at apertures not greater than f:8—and often smaller. Some scenes were filmed at f:11, and one even at f:16!

How completely this solved our depth of field problem may easily be imagined. Even the standard 50mm. and 47mm. ob-

(Continued on Page 80)



TO director of photography Nicholas Musuraca, A.S.C., there must be a reason for everything. His whole approach to his work seems predicated on the eternal question, "Why am I doing this, and why am I doing it this particular way?" And to him the answer that it is because a thing is supposed to be done that way, or because it always has been done that way, is no answer at all. Before he is satisfied, he must have a practical, common-sense reason that makes direct appeal to his strong sense of logic. If, to get that reason, he has to break established traditions, or evolve new methods, he does it. But he must convince himself that whatever it is is being done in the best and most sensible way possible.

This is shown very clearly in his views on lighting. To Nick's mind, there can never be any fixed rule for lighting a given type of set or action, for each scene is a complete photodramatic entity in itself. It can never be just like any other scene. It has its individual dramatic mood and tempo; often it represents a definite season, or even a definite time of day. All of these combine to set it apart from any other scene, no matter how similar otherwise; and each must be fully considered in bringing it to the screen.

For example, he likes to point out some of the distinctions he had to make in one recent picture between the lighting treatment of scenes in very similar rooms, showing very similar action, but

with one taking place at night, and the other in the daytime. It was not just a simple matter of using a low-key lighting for the night-effect, and a fuller lighting—possibly with a sunlight effect through a window—for the day shot. It meant instead a complete reversal of his entire plan of lighting. "In the day sequence," he points out, "I built my whole lighting around what would naturally be the light-source in reality—the window. The dominant sources of lighting for both set and people were placed on that side, and placed low enough so their beams fell at angles which would at least suggest natural light coming through that window. The lighting from the opposite side—neces-

sary of course for photography—would serve largely as filler-light, and would be softer, to hint at the natural effect of light reflected from the inside walls.

"In the night-sequence, on the other hand, my lighting would be exactly reversed. In reality, at night the main sources of light in such a room would be the reading-lamps visible in the long-shots. These would be inside the room, and as the action was played, most of them were located on the opposite side of the players from the now dark window. Therefore to produce a believable effect, the key light-sources of my shot would have to be on the opposite side from where they were in the day-effect scene. Moreover, they would throw their beams at different angles, to suggest light coming from the practical lighting fixtures which were supposed to be illuminating the room.

"Turning this night-effect into a day-effect—or vice-versa—could never be done merely by increasing the exposure values of negative or print. You might obtain the desired density that way—but you couldn't obtain a convincing, natural effect. The audience might not know what was wrong—but they'd feel something was wrong, just the same. And they'd be distracted from the story.

"As a matter of fact, you would probably make a difference in lighting day-effect scenes in that set according to

Aces of the Camera

II:

NICHOLAS MUSURACA, A.S.C.

By WALTER BLANCHARD

the time of day represented, for the direction of shadows, projected light-effects, and so on, would certainly be different if you wanted to represent morning, noon and evening."

Nick is no blind adherent of the long-established cinematographic convention that heavy drama *must* be lit in a low key, comedy *must* be lit in a high key, and so on. That, again, must in his analysis depend upon the logic of scene, setting and action. "For example," Musuraca points out, "a vast amount of real-life drama occurs in hospitals. And a modern hospital isn't by any means a sombre-appearing place. Everything is light-colored and glistening; what's more, everything is pretty well

illuminated—trust these medical men to see to it that there's enough illumination everywhere to prevent eye-strain.

"So why should we always have things sombre and gloomy when in a picture we try to portray sad or tragic action in a hospital? For that matter, one of the most poignantly tragic of all modern death-scenes—Helen Hayes' death-scene in 'A Farewell to Arms'—was filmed in a realistically high key throughout. Charles Lang, A.S.C., certainly deserved the Academy Award he received for that picture.

"In the same way, if there's no logical reason for it, why should comedy always be lit in a high key? Sometimes your action may really demand low-key effects to put it over! You don't think so—? Well, here's an example! In making 'Little Men,' we had just such a scene. The scene showed George Bancroft sitting at his desk, reading; it was a night-effect. While he is engrossed with his study, Jack Oakie tiptoes in through the door, and hides behind the door—unknown to the professor—who calmly gets up and goes out, still unaware that anyone is in the room.

"Now if you had that scene lit in a high key, in traditional comedy fashion, even the most absent-minded or near-sighted old professor could hardly ignore Jack Oakie's presence. I knew that if the scene was to be convincing, we had to make Bancroft's ignorance of the intruder plausible and natural.

"Luckily, the period of the picture—the late 19th Century—helped me. For at that time and in the places represented, rooms were illuminated with the old-fashioned coal-oil lamps. In the long-shots of this sequence, we established two of these lamps: one a desk-lamp, illuminating the professor's work; the other a lamp on a table, casting its glow of light in another portion of the room. The intervening areas I left—as they would be in life—in deep shadow. Oakie was seen entering the room; then as he hid behind the door, he was lost in the deep shadow.

"The audience could then believe that the professor would naturally fail to see him, even as they did. But—they had seen him enter; the professor hadn't. They could enjoy the humor of the situation far better because the lighting helped them to believe the action."

Another point upon which Musuraca feels strongly is that in many ways modern photography has become too complicated—unnecessarily complicated. "There are more than enough things that really *have* to be done," he says, "to make any kind of a picture today; why should we go out of our way to add complication—and make ourselves a lot of extra work?"

"For example, take the matter of lighting a set or a person. All too often we're all of us likely to find ourselves throwing in an extra light here, and another there, simply to correct something which is a bit wrong because of the way one basic lamp is placed or

adjusted. That's a lot of unnecessary work and worry!

"If, on the other hand, that one original lamp is in its really correct place and adjustment, the others aren't needed. Any time I find myself using a more than ordinary number of light-sources for a scene, I try to stop and think it out. Nine times out of ten I'll find I've slipped up somewhere, and the extra lights are really unnecessary. If you once get the 'feel' of lighting-balance this way, you'll be surprised how you'll be able to simplify your lightings. Usually the results on the screen are better, too!

"The same thing applies to making exterior scenes. One of the commonest sources of unnecessary complication is in overdoing filtering. Just because the research scientists have evolved a range of several score filters of different colors and densities isn't by any means a reason that we've got to use them—or even burden ourselves down with them! On my own part, I've always found that the simplest filtering is the best. Give me a good yellow filter, for mild correction effects, and a good red or red-orange one for heavier corrections, and I'll guarantee to bring you back almost any sort of exterior effects (other than night scenes) that you'll need in the average production.

"What filters—? That's a matter for personal choice. Some prefer one filter, others another, according to their particular methods of working. My own choice is an Aero 1 for the lighter effects, and a G or sometimes a 23-A for heavier effects.

"And by the way—when in doubt about filtering—don't. Nine times out of ten you're better off that way, especially if there are people in the scene. The best example of misdirected enthusiasm for filtering is in making snow-scenes. I remember a while back I was on location doing some such scenes. As we approached our first set-up, my crew came to me and asked what filter they were to use. When I told them none, they couldn't believe me. Everyone used some sort of filter in the snow!

"But what have you really got to filter? Your snow will render as an extreme white, no matter what you do. The evergreens, trees, rocks and so on will come out good and dark. You're going to have extreme contrast no matter what you do. Under these conditions the sky automatically will take its proper place in rendering a pleasing picture. So why filter?"

"Filter to control that contrast, you say? I don't agree. Most filters tend to *increase* contrast; in snow, even a Neutral Density filter will do so, for while it may hold back the snow, it will also hold back the dark areas. My experience has been that the real secret of good snow scenes is correct exposure—correct exposure for whatever part of the scene is most important to your shot. Usually it will be the people, and especially their faces. Expose for them, and the rest of the



Stage Exit Marker

A constructive contribution to safety and convenience was made by studio policeman Bob De War of the Paramount Studio, shown above, who suggested placing an illuminated "Exit" sign above the doors of stages. Anyone who has stumbled forlornly about the dark corners of a stage, far from the bright lighting of the set and thus doubly dark, will realize the value of this simple suggestion.

shot is likely to be all right.

"This works out in practice, too. On the occasion I mentioned, my crew couldn't be persuaded that my decision not to use the filter was or could be correct. They were very polite about it, but I could just feel them thinking, 'Poor old Nick—he's a back-number!'

"So I told them to make one take filtering as they thought they should. The operative saw to it that that take was unmistakably marked 'print' in that day's negative reports! He was the first man in the projection-room next day, too, when we ran the rushes.

"All went well until his shot came on. It was off-balance and unbelievably contrasty. The director hit the ceiling, and the operative wished he could sink through the floor! Immediately after, the un-filtered scenes came on—and were perfect. Since then, that gang has been a whole lot less ready to suggest using filters except where they were demonstrably necessary! Embarrassing, maybe—but it takes practical experience like that, often, to prove to all of us that while theories may be fine, the best way to do a thing is usually the simplest—and we can always find that simplest way if we reason things out looking for simplicity and logic instead of technical window-dressing!" END.

Fantasound--

Disney's New Sound System

By William Stull, A.S.C.

FROM the time the first vague rumors about Walt Disney's third feature-length production, "Fantasia," began to dribble about the industry, down to the present moment, with the production having its premiere showings in New York and Hollywood, the cine-technical community has been asking itself questions about the radically unconventional sound system around which the production is built.

What relation, technicians have been asking, does this "Fantasound" bear to conventional recording? What—if any—is its relation to stereophonic methods? Is it comparable to any existing methods of multiple-channel recording, such as have been previously used to produce close-mixed tracks of orchestral music for conventional productions? In short, what is "Fantasound," how does it work, and what is likely to come of it?

To begin answering those questions, "Fantasound" may be termed a logical outgrowth of conventional recording and reproducing methods, especially the multiple-channel technique. It makes use of standard units wherever possible, assembled in a new way and tied together with special, newly-devised accessories to produce unconventional results. As it now exists, "Fantasound" is emphatically *not* a stereophonic method, even though its effects can when desired be startlingly directional. It is fully possible that the present equipment, however, could be utilized for true stereophonic, third-dimensional recording and reproduction if desired.

The system was really born when two brilliant men with definite ideas about sound, music and movies got together. One of them was of course Walt Disney. The other was Dr. Leopold Stokowski. Both were dissatisfied with the artistic and technical results possible with existing methods and equipment. Disney wondered what could be done to make offstage voices and sounds seem acoustically offstage to the theatre-listener. Stokowski was dissatisfied with the way symphonic music came out of theatre loudspeakers. They pooled their discontents and ideas, placed the problem in the capable hands of the Disney chief

technician, William E. Garity—and "Fantasound" was the result.

One of the chief problems in the motion picture re-creation of the music of a big orchestra is the fact that the volume or dynamic range of the music has to be *compressed* to meet the limitations of the sound-recording system. The lowest sound which can be successfully recorded is limited by the background or grain noise of the film itself: when the ratio between the recorded signal and the ground-noise becomes too small, the ground-noise becomes objectionable in reproduction. The loudest sound which can faithfully be recorded is that which (in a variable-area system) gives a 100% modulation, at which the peaks of the recorded wave extend to the very edges of the sound-track area.

Between these two limits is a commercially usable range of about 35 decibels. The actual range of a symphony orchestra, on the other hand, is approximately 70 db. A completely realistic reproduc-

tion demands the restoration of the missing 35 db. of dynamic range.

Merely adding additional amplification will not do this. For one thing, it is likely to tend to overload the speaker-units. Furthermore, such a blast of sound coming from a single, relatively small source produces an unnatural and definitely unpleasant effect upon the listener.

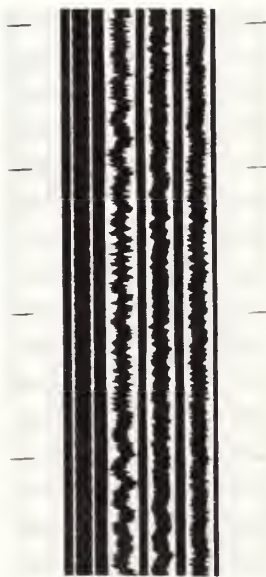
This brings us to the second problem. In a concert by an actual orchestra, the source of sound—i.e., the orchestra—covers virtually the whole width of the stage. Furthermore, much of the sound produced by an actual orchestra is directed at a higher angle than is the case when the sound is mechanically reproduced through conventional loudspeakers. Accordingly, in an actual performance much of the sound heard by the audience does not come directly from the orchestra, but has been reflected to the listener's ear by one or more points on the auditorium's walls, so that the listener feels himself, so to speak, enveloped in sound.

Therefore the first two aims in the development of the "Fantasound" system were to produce the desired increase in dynamic or volume range, and to spread the primary source of the sound over a wider range, at the same time reinforcing it with secondary sound-sources distributed throughout the auditorium.

In addition, for musical and dramatic reasons, it was found desirable to be able to create directional or semi-directional effects, energizing individual speakers or groups of speakers to reproduce certain portions of the sound which were to stand out prominently from the main body of the recording.

The "Fantasound" system is the logical result of attempting to meet these several requirements.

The orchestral recordings were made in Philadelphia, utilizing the multiple-channel system evolved by Dr. Stokowski and Universal's sound engineers when making "100 Men and a Girl." (See AMERICAN CINEMATOGRAPHER, Nov., 1939, P. 453.) In making these recordings, each section of the orchestra was recorded by a separate microphone and its associated amplifying and transmitting equipment, feeding into a standard RCA Ultra-Violet Push-Pull recorder.* As many as eight of these sectional records were made for most selections. These are in turn combined as may be necessary, with the addition of any solo voices, dialog or sound-effects which may be required, to produce three double-width Push-Pull tracks, which are printed side-by-side on a special sound-track film. Beside these three program-tracks is printed a special control-track, which will be discussed later. This special four-track sound positive is separate from the Technicolor picture-positive, which, however, carries a conventional close-mix sound-track combined



Section of sound film from "Fantasia" (actual size). The three sound-tracks at right carry the records for the three program channels, fed respectively to left, center and right-hand amplifier and speaker systems. The track at the left is the control-track, which automatically controls reproduction of the other three.

* Note: The track was doubled in width in the printing process when the final multitrack prints were made. Standard-width tracks were used in recording and re-recording.

from eight or more sound tracks which were used in producing the three program tracks just mentioned, as a measure of safety and convenience.

This type of recording inevitably necessitates a special reproducing system. The "Fantasound" reproducers, while embodying as many standard units as possible, were specially built for the purpose by RCA, to Disney designs.

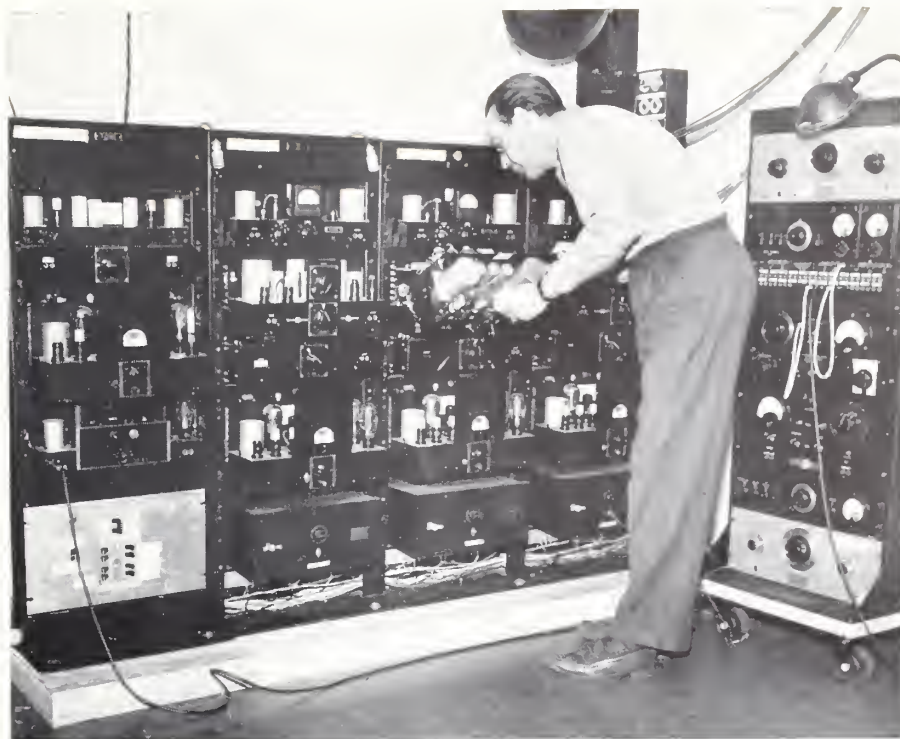
A special multi-track sound-head or film phonograph is used, driven in synchronism with the picture projector by means of Selsyn motors. With the exception of the Selsyn drive and the four-track pick-up, this unit is a standard RCA re-recording head. The scanning system scans all four tracks simultaneously. The scanning beam extends the full width of the film, creating a narrow slit of light across all four tracks. Suitable long-focus optical systems then project the slit-image of each track along a slightly divergent path to its proper photocell.

The signal output of each of the four sound-tracks is then fed through a special relay fader system, and thereafter amplified by four separate pre-amplifiers. Each of the three program pre-amplifiers feeds into a special variable-gain amplifier, which in turn feeds a 20-watt driver amplifier. Each driver amplifier feeds two 60-watt power amplifiers connected in parallel, giving a rated output of 120 watts per channel.

As a matter of fact, however, though these power amplifiers are rated at 120 watts, they have been found actually to deliver 200 watts with less than 2% distortion, making a total undistorted power output of 600 watts available for the three-channel system. The added volume-range obtained by this equipment and technique is approximately 42 db.—or about 10,000 times that possible in a conventional system.

To handle this enormously powerful signal output, three separate multi-speaker systems are located on the stage. One is placed on the left side of the stage, the second at the center, and the third at the right side. Each consists of four large folded-type low-frequency baffles fed by eight low-frequency speaker-units, and one large cellular high-frequency horn with a special throat, fed by four high-frequency speaker units. Thus the triple down-stage speaker system comprises thirty-six de luxe loudspeaker units!

The reinforcing or auditorium speaker installation varies according to the size and acoustic characteristics of each individual theatre. In the installation in New York's Broadway Theatre, two additional 50-watt power amplifiers are connected to the driver amplifiers on the two side channels through suitable attenuator pads. Each of these amplifiers in turn drives 22 small cabinet-type speakers distributed throughout the auditorium—at the sides, rear, and even on the ceiling. Thus in this installation, a total of no less than 80 loudspeakers are employed! The installation at Los Angeles' Carthay Circle



Above, Disney Chief Engineer William Garity inspects amplifying system of Fantasound reproducer.

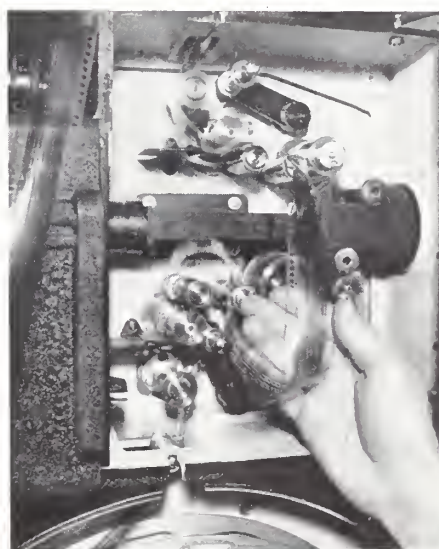
Below, multiple-track reproducing head for Fantasound.

employs fewer speakers, and has slightly lower output, due to the smaller size and differing acoustic characteristics of the auditorium.

The entire system is automatically controlled by the fourth track on the film, which controls the three variable-gain amplifiers in the three main program channels. This track is a composite recording of three different oscillator frequency-tones. Each of these control tones is rectified and provides the gain-controlling element for each of the three variable-gain amplifiers.

The control-track is made essentially as follows. After the final re-recordings of the three program tracks have been made, the output of an oscillator generating the desired frequency—say 250 cycles—was connected to the input of the control-track recorder and to a variable-gain amplifier in a standard reproducing system in such a way that any alteration of the amplification of the reproduced music would alter the gain of the recording amplifier recording the control frequency.

Then the recording of the music-tracks in question were played through the reproducing systems, while mixers directed by Dr. Stokowski or one of his associated musicians, controlled the volume in accordance with a carefully pre-arranged set of cues. Thus as the mixers manipulated the volume-levels of the music-tracks to which they were listening, they also manipulated the volume-level of the oscillator frequency-tone being recorded on the control-track. Thus the three tones for controlling the volume of the three program channels are recorded simultaneously on



a single sound track.

In reproduction, this three-tone signal, after the usual pre-amplification, is fed to a special control-amplifier system in which the three frequencies are separated from each other by means of suitable band-pass filters. Thereafter the three control-frequencies, now separated, are fed, each to the tone rectifier and thence to the variable-gain amplifier of its associated program channel. The gain or volume-control setting of each of these amplifiers is automatically varied according to the strength of the control-tone that is used in connection with it. Thus the volume-level of any of the three program-channels may be automatically raised or lowered independently of the others.

In addition, it is possible to control the sound manually in such a way that any given section of the sound may be

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THAT the work done actually on the set is by no means the biggest, or even necessarily the most important part of directing a picture is the unorthodox viewpoint of France's leading cine-craftsman, Director René Clair, now making his first Hollywood production. And he is no mere theorist, this lean, keen-eyed Frenchman; during the past ten years he has put his principles of picture-making to practical proof in the studios of France and England, emerging with such recognized chefs d'oeuvre as "Sous les Toits de Paris," "Le Million," "A Nous la Liberté," and the English-speaking "The Ghost Goes West."

"What is done on the set," says Clair, "is of course important. But it is only one part of a job that has three phases. The first step is in writing the script. The second, shooting the scenes on the stage. The third is cutting the picture. Each phase is important: but, understand, each of these three steps must be carefully coordinated with the other two if the picture is to be produced with the most complete artistic, technical and economic efficiency. And if the director is to give the picture the fullest value of his services, he should participate actively in all three phases, rather than in only one."

"The fact that so few of your American directors are able to do this is really about the only criticism I can make of Hollywood's methods. For the rest, it is surprisingly like working at home in Europe. Of course, Hollywood's studios are larger than those in France, though England's larger plants, such as the Denham and Pinewood studios, are quite as large and modern as any here. Both here and abroad the technical equipment is uniformly modern, and whether you're making your picture in London, Paris or Hollywood you will find plenty of skilled fellow-workers in every department."

"Only in Hollywood, though, do you find such intense specialization. I am constantly amazed how here in Hollywood, everyone seems to specialize in some definite type of work. Even your directors of photography, despite the versatility we in Europe so greatly admire in them, tend to become "typed" for definite classes of work. And it is the same with directors: their field is becoming more and more specialized—and limited."

"I think this has in some ways done an injury, not only to your directors as such, but to the pictures they make. I mean this in both an artistic and an economic sense, for there is a tendency to accept the director merely as a man who simply directs scenes someone else has scripted, and which someone else yet will edit into the final picture. In some ways, this can make for efficiency: but it can also make for inefficiency, too, not to mention artistic shortcomings."

"If you write a script someone else is to direct, you can't be sure that he will visualize the story the same way you do, and accordingly you will probably write things loosely, so as to protect both

Cut With Script and Camera Says Director René Clair

As told to WILLIAM STULL, A.S.C.

of you. In the same way, if you are directing from a script you did not help prepare, and which you know somebody else will cut, you are very likely to do a lot of unnecessary shooting to protect yourself, the writer and the cutter."

"In Europe, we could not afford the luxury of working this way. For one thing, we didn't have the money. For another, there was not so much iron-clad specialization in the writing and editing fields. The director in Europe is supposed to have full charge of making a picture. Not because he is the director, but because he is, as a rule, the one man who knows every phase of picture-making. Not only does he direct the shooting: he collaborates actively in writing the script and in cutting the picture."

"In my own experience, this system of working seems really the most efficient. Always I am a collaborator in writing the script. Therefore I plan my script much more thoroughly than might otherwise be possible. I know in advance just how I will shoot each scene—and I have this indicated in detail on the script. When I come to shoot the scenes, I know precisely how I want each scene and sequence to fit together in the final print. I shoot them that way—and so I have no need for 'protection-shots,' or for moving-camera shots which won't find their way into the final cut of the picture."

"In the same way, I work with the cutter in editing the film. I know just how I've planned things to fit together; I've shot them so that they would. Therefore in cutting there really isn't much to do except to cut out the slates and splice the scenes together."

"How well this works is, I think, pretty well indicated by the way we've been progressing with my present picture, 'The Flame of New Orleans.' When we commenced production, I noticed that the production office, in estimating our budget, had noted the number of scenes in the script, and set aside an amount of negative film which their experience indicated would probably be necessary for filming that many scenes. Of course, we haven't finished the picture yet—but so far we have used less than half as much negative as the estimate allowed for the scenes we've made."

"I hope this doesn't sound boastful; really, I feel it is not so much to my

personal credit as to that of the methods of picture-making I learned when I entered the industry. After all, one of the most vital things about directing is being able to foresee how your scenes will cut together. If you can do this while you are yet working on paper instead of celluloid—preparing the script—you can plan things so that you really cut the picture with typewriter and camera."

"And if things are planned this way, once you start working on the set, you will discover there is only one right way to shoot a given scene. Shoot it any other way, or from any other angle, and it won't fit in smoothly with the rest of the sequence."

"For instance, suppose we have such a simple action as two men talking to each other. We begin in a long-shot, showing them standing together, close enough for normal conversation. Then we naturally cut to separate, closer shots of each man as he speaks."

"Now, from the cutter's viewpoint, there is only one proper way for these closer shots to be made; shot in any other way, they won't cut well together, and the visual dissonance—slight though it may be—will subconsciously distract the audience's attention from the action. Both men should be shown in shots which show their forms as the same size. That is, if our first individual close-up is, say, a head-and-shoulders angle, the succeeding shot of the other man should be a similar head-and-shoulders angle. In the same way, all the succeeding individual close-ups of this conversation should keep this same angle, until we see one man or both move forward or back. Then we can change to either closer or longer angles. But to cut properly, and give a smooth-flowing sequence on the screen, these points should be observed by the director and cinematographer in shooting the sequence. Most directors of photography, being thoroughly versed in screen technique, will be aware of this. But many directors, not being technicians, won't be, and will vary their angles to give variety to the sequence. Such fine points of the technical details of direction can only be fully evident to the director who knows cutting from script to screen."

"Another phase of direction in which

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N ECESSITY may be the mother of invention but sometimes just a chronic need for improvement—the feeling that one could use a new wrinkle in equipment if it were available—does pretty well at procreating the longed-for gadget.

My feeling of chronic need for a certain type of lighting, plus the fillip given by problems arising on a particular picture to which Warner Bros. assigned me, did the trick in my case. I went to work at developing a type of light to suit my needs, and it is now in use, actually filming "Affectionately Yours."

Before production began I was able to test the new light extensively on such stars of the picture as Merle Oberon, Dennis Morgan, Rita Hayworth, George Tobias, Ralph Bellamy and James Gleason, singly and in the combinations in which they appear in the script. This enabled me to go into the actual filming of the picture with complete test data to meet every requirement.

The lighting problems confronting a Director of Photography filming certain of these stars are well known in our profession.

My new light was aimed squarely at my principal worries in this regard, but in use it's a shotgun, not a rifle. As each day's shooting goes by, I find it killing more than one bird at a time, and sometimes it gets a whole flock of them.

In structure it resembles a square-toed horseshoe roughly three feet square, and it is mounted like an inverted horseshoe over the camera. Each side and the top is a long rectangle housing four lighting units. These are 100-watt globes controlled by separate switches, so any combination of the total of 12 units may be switched on.

There is only one cable connecting the light with the source of power. It goes through a dimmer, so the candle-power can be controlled as the camera trucks backward or forward, without changing the number of units lighted.

Provision is made for tilting at a slight angle, and also for elevating slightly. But when the angle of light to camera-aim is once fixed, the two remain constant, no matter how the camera is jockeyed around.

In other words, the modelling, key and balance lighting on a subject will not change with camera movement, and all factors that with another type of light would vary continually, remain the same.

Some of the advantages of the arrangement I have described will be apparent to the reader at once. Others I am still finding out as I use it. However, I shall point out a few of them hereafter:

Absence of many cables: I am continually astonished at the convenience of having the equivalent of many small lights near the camera, and moving with it, without the inconvenience of a tangle of separate cables.

Our one light-cable on the camera



NEW MULTIPLEX LAMP

By TONY GAUDIO, A. S. C.

truck is, of course, no problem at all for the men to handle, even on the most complicated moving shots. Director Lloyd Bacon devised several honeys for us in the course of filming "Affectionately Yours," and I had occasion to say to myself, "Tony, you're lucky you had your light ready in time for this one!"

Of course, I am not saying that 12 lights in a fixed form, even when I have every unit of my equipment on, give the same effect as I might get by juggling twelve separate lights, no one attached to the other. But deliver me from juggling with such complications. The beauty of my device is its simplicity, which might be expected, and its versatility, which is surprising even its inventor.

I throw on two units on the left, let

us say, one on the right and one above—just one of such a large number of practical combinations that I haven't figured out how many there are!—and I have modelling, key, balance. Maybe I think a better effect would be secured by using two on the top, one far left and one far right. Or decide that the middle units on top are best. All I do is flick three or four switches.

There is no other way of shifting light-effects of this sort so swiftly and easily. Remember your separate light must be raised and locked in position, or lowered and locked in position, and the tilt adjusted, all two-handed jobs, requiring additional time.

Naturally, on trucking-shots of certain varieties time is saved, also, in

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THROUGH the EDITOR'S FINDER

PRODUCER-Director Howard Hughes a few weeks ago had an automobile accident—one sufficiently serious to incapacitate him for several days, and to keep him away from the set where he was directing his production "The Outlaw." Yet shooting continued efficiently during his absence, for Director of Photography Gregg Toland, A.S.C., with the collaboration of Scenarist Jules Furthman, took over the task of directing the picture.

Reading this in the trade papers, many people in the industry undoubtedly said to themselves, "How clever! Trust Howard Hughes to do the unusual thing!"

But is it so unusual?

We can't quite believe that it is. On the face of things, it may seem out of the ordinary that the task of directing a picture be turned over officially to the man who directs its photography. But it has been done often enough *unofficially* and *left-handedly*—done in a way that places the cinematographer in the case under far worse handicaps than applied in this instance.

What else can you call it when a studio or producer takes a green, un-picture-trained director, fresh possibly from the stage, from radio, or even from some off-the-set phase of motion pictures such as scenario-writing or cutting, and gives him the job of learning how to direct pictures by actually doing it—and is sublimely confident that the apprentice director will be kept from falling into too many mistakes by the unofficial guidance of a picture-wise cameraman? There's no need to mention names, studios, productions or dates: it has been done in every studio in the industry, not only once, but many, many times. More than a few of the raw young cubs who were patiently guided by their more experienced camera partners are now ranked among the industry's better directors. Others, failing to learn, have happily vanished from sight. *But the pictures upon which they got their expensive training were never absolute losses.* They might not be smash hits—even the most optimistic of producers doesn't lavish hit material on these "director-trainers"—but in spite of every handicap, the Director of Photography, left-handedly piloting the picture, would manage to bring in something that was at least saleable. Frequently it was even good.

If these men can do it while teaching and often "carrying" a novice director, isn't it conceivable that they could do better alone?

Today the industry, more than ever before, needs directors who can make good pictures—and make them efficiently. They need directors who know the production ropes so thoroughly they can cut production corners—make small, inexpensive sets look big—minimize the time,

effort and money wasted in indecision, "protection-shots," and scenes which never get into the release-print—and who can put a dollar's worth of production value on the screen for every fifty-cent expenditure. These aren't tricks of camerawork alone, but of direction and production planning—of staging action the unusual way instead of the usual—of revising this bit of script or that to permit quicker or more efficient shooting—and above all, of knowing what has been done in other similar circumstances, what can be done, and especially what ought to be done.

Among the industry's Directors of Photography are many men who have wider store of such production knowledge than can be found anywhere else within the industry. They've been making pictures for fifteen, twenty, and even thirty years. They've worked in every studio in the industry. They've worked intimately with scores—sometimes hundreds—of directors. They've seen every conceivable production problem solved (and often solved them themselves) on hundreds of productions.

The old argument that these men are most needed to ensure the photography of the industry's pictures no longer holds. There are more men—and good ones—available today than the industry can use. There are yet other capable young men working up from the operative grades.

In view of all this, we'd like to ask—can the industry afford to ignore the reservoir of trained, experienced director-material it has available among its Directors of Photography?

TWELVE years of more or less intimate association with the production of this and other magazines has taught us at least one fact about the psychology of the people who read magazines. For some reason, they're much likelier to write to the editor when they see something they *don't* like about the magazine than when they see something they *do* like.

Therefore the really surprising number of letters and personal calls praising our efforts as shown in the January issue of THE AMERICAN CINEMATOGRAPHER is something more than ordinarily gratifying. Some of these messages came from individuals who know us personally; others came from people who, other than the acquaintanceship that develops through the printed page, are total strangers. But they all seemed to have kind words for our maiden attempt at turning out their magazine.

This makes us very proud—and very humble too. Proud because there seemed so much agreement with our ideas of what this journal should be like. Hum-

ble because we realize the responsibility entailed in keeping it at the standard they approved, and improving it.

We'd like to express our appreciation to each one individually. But since we can't do that, we want to take this opportunity to say "thank you" to all of them at once—and to pledge again that now and always our efforts will be bent toward making THE AMERICAN CINEMATOGRAPHER the best and most authoritative magazine for everyone who is interested in any phase of cinematography—professional, semi-professional or amateur—and toward making it to a constantly increasing extent an instrument of far-reaching, constructive service, to its readers, to its advertisers and to the photographic and cinematographic industries.

TERMINOLOGY isn't by any means the most important thing in the world today, but we can't help wondering if the industry couldn't to advantage use a more exact term for the men who make its process and other "trick" shots, and for the work they do. In some studios they're called "process photographers;" in others, "special-effects men;" in one, even, for many years the department handling these out-of-the-ordinary photographic effects was known as the "department of scientific research!"

None of these designations seems entirely accurate. "Process photography" seems about the best, but it is still rather vague. "Special-effects" may apply not only to the photographic tricksters, but to a wide variety of other technicians, from the men who handle special break-away sets to the explosives experts. Somehow, it seems to us that these men, who contribute so notably to modern productions, deserve an exclusive and unmistakable designation. We'd certainly like to hear some suggestions on the subject. But in picking a name, it is to be hoped we can avoid choosing an involved or cumbersome appellation; we've never forgotten a comment encountered some years ago in a French cine magazine, where a writer, referring to Hollywood's cinematographers, spoke of them as "the men who in English are called 'cameramen,' but who we French refer to more simply as 'opérateurs de prise des vues!'"

PHOTOGRAPHIC picture-making—still or movie—is certainly the most vital of hobbies. In the midst of a worldwide war, with all its inevitable suffering and curtailment of normal personal interests, we still receive an almost-normal quota of photographic magazines from all over the world—even from the warring countries. England, Germany,

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A.S.C. on Parade

Arthur Miller, A.S.C., has been upholding the honor of the camera profession in that current institution of culture, the radio quiz. It seems radio's Dr. I.Q. recently awarded a contestant eight bucks for saying the diaphragm and shutter on a camera are one and the same. Artie quite rightfully disagreed, and a mild feud-by-correspondence has resulted. Good work, Art—but why not give the Doc a subscription to THE AMERICAN CINEMATOGRAPHER so he'd know the real facts—?

Gilbert Warrenton, A.S.C., postcards in from Blythe, Calif., to tell us he celebrated Christmas in the Queen of the Angels hospital watching flu lap-dissolve into pneumonia, and is now recuperating in the desert sunshine. Gil sends a cheery "hello" to all his Hollywood friends, and says he hopes to be back soon after the first of February. Meantime, he'd appreciate hearing from his A.S.C. fellows.

Victor Milner, A.S.C., didn't get much of a vacation after leaving Paramount. Universal grabbed him to direct the photography of "The Man Who Lost Himself."

Meantime Vic's buddy, William Mellor, A.S.C., hurried off for a two-weeks' vacation in New York. They do say it's Bill's first visit to the big town. Hope he doesn't come back with a crick in his neck, 'cause he's due to start Paramount's "Pioneer Woman" as soon as he returns.

James Wong Howe, A.S.C., has as his house guest Lieutenant Jacinto Chong, Philippine Army officer currently in Hollywood studying motion picture production under Academy auspices. Lieutenant, you are to be congratulated, for you'll certainly learn volumes about both cinematography and hospitality while you're with Jimmy.

Past-President Daniel B. Clark, A.S.C., is smiling these days. Darryl Zanuck and 20th Century-Fox renewed his contract as Supervisor of Photography. Good judgment, we call it!

Joseph Valentine, A.S.C., is another who's wearing an oversize grin. Universal picked up his option with a two-year renewal. This makes his sixth straight year at the U—and for the statistically-minded we'll remark that his recently completed film, "Nice Girl," was his ninth consecutive Deanna Durbin starrer.

Karl Freund, A.S.C., assigned to direct the photography of MGM's "Blossoms in the Dust," ought to turn out a notable job on this Technicolor opus, for Karl was a Technicolor consultant back in the days when the present process was only a dream in Dr. Kalmus' mind.

Rudy Maté, A.S.C., made such an impression on Universal's executives while doing a picture there on loan that they've signed him to a contract. He's now collaborating with his friend and countryman, director René Clair, in realizing (as they used to say in France) "Flame of New Orleans."

The other day William Daniels, A.S.C., surprised us by turning up most unexpectedly in the Editorial Office of THE AMERICAN CINEMATOGRAPHER to say thanks for last month's article. Seems Bill had been up in Canada on a vacation, and didn't know a thing about it till he came back and saw a copy on MGM Camera-Chief John Arnold's desk. But he'll catch up on his reading now, for he's been assigned to direct the photography of "Love Crazy" at MGM, and won't have a chance to go touring for a while.

Speaking of going places, Phil Tanura, A.S.C., said something about going somewhere, too. We hope he means he's going to the mountains to shoot those infra-red tests he promised us an article about—! Now will you be good, Phil?

Over at Paramount, Charles Lang, A.S.C., draws the assignment to photograph "Skylark."

Which reminds us that a few weeks ago Elmer Dyer, A.S.C., and his better half celebrated their silver wedding. And they say marriages don't last in Hollywood.

Joseph August, A.S.C., goes over to Republic to film their Judy Canova special, "Sis Hopkins."

And at Universal, Milton Krasner, A.S.C., goes glamorous on us, filming "Lady From Cheyenne."

Now that Milt's contribution to the draft cycle (see last month's "Parade") is in the box, it's "front and center" for Charles Schoenbaum, A.S.C., drafted to shoot the works on Paramount's "Caught in the Draft."

Henry Freulich, A.S.C., has the financial-sounding assignment of directing the photography of Columbia's "A Girl's Best Friend Is Wall Street."

Polito Tops Preview Poll

Sol Polito, A.S.C., with his sparkling black-and-white camerawork on "Santa Fe Trail," captured premiere honors in the Hollywood Reporter's Preview Poll for December. Second place went to Ernest Palmer, A.S.C., and Ray Rennahan, A.S.C., for their highly pictorial Technicoloring of "Chad Hanna," with Hal Rosson, A.S.C., a very close third for "Flight Command."

Monthly winners during 1940 were: January, Arthur Miller, A.S.C., and Ray Rennahan, A.S.C., for "The Blue Bird;" February, Sid Wagner, A.S.C., and William Skall, A.S.C., "Northwest Passage;" March, George Barnes, A.S.C., "Rebecca;" April, William Mellor, A.S.C., and Allan Davey, A.S.C., "Typhoon;" May, Bert Glennon, A.S.C., "Our Town;" June, George Barnes, A.S.C., and Ray Rennahan, A.S.C., "Maryland;" July, Sol Polito, A.S.C., "The Sea Hawk;" August, Rudy Mate, A.S.C., "Foreign Correspondent;" September, Joseph Valentine, A.S.C., "Spring Parade;" October, Gregg Toland, A.S.C., "The Long Voyage Home;" November, Tony Gaudio, A.S.C., "The Letter;" and December, as just announced, Sol Polito, A.S.C., "Santa Fe Trail." Take your pick, boys, they're all fine jobs—and mighty likely one of them will turn out to be named "Oscar" before February is out!

Random thought—ever noticed the striking resemblance between cinematographer Stanley Cortez, A.S.C., and L. A. Times dramatic critic Phil Scheuer—? Wonder if on the strength of it we ought to assign Stan to cover some previews for us?

And did you know that George Barnes, A.S.C., was an enthusiastic model railroader?

Leo Tover, A.S.C., draws the lensing assignment on Paramount's "Hold Back the Dawn." Sounds like a unit manager's prayer when the troupe's on night scenes, doesn't it? Hope it doesn't work out that way, Leo!

For a speedy right-about-face, we can recommend the switch that Robert Planck, A.S.C., made recently. As soon as he finished shooting added scenes for MGM's "Wild Man of Borneo," the studio put him to doing tests for "A Woman's Face." Versatile, we believe, is the word for Bob!

Ted Tetzlaff, A.S.C., draws another pleasant assignment. He's to direct the photography of "Kiss the Boys Good-Bye," the Mary Martin starrer.

PHOTOGRAPHY OF THE MONTH

SO ENDS OUR NIGHT

David Loew-Albert Lewin Production,
United Artists Release.

Director of Photography: William Daniels, A. S. C.

William Daniels, A.S.C., has long been recognized as one of the world's foremost Directors of Photography—but his superb camera treatment of "So Ends Our Night" is certain to advance him to still higher rank among the great masters of the camera. In a previous issue of this magazine, it was pointed out that restraint is a basic point in Daniels' photographic philosophy; that except on occasions where action, mood and story legitimately permit it, he sedulously avoids the spectacular in photography. Well, here is a picture which for once gives him a chance to show what he can do—and how he does it!

From the opening scene to the closing title, Daniels gives a virtuoso performance—in many respects the finest of his career. The sombre mood of the story calls for low-key effect lightings; the locale—Vienna, Munich, Czechoslovakia, Switzerland, pre-war Paris—combined with the strongly atmospheric production design of William Cameron Menzies and the settings of Jack Otterson, insist on strikingly pictorial effects. Bill Daniels delivers—and excels himself in doing so.

It has been this reviewer's privilege to see many examples of masterful camerawork. But seldom, if ever, has he been privileged to see a production like "So Ends Our Night," embracing such a wide variety of dramatic moods and shadings, in which the photography so subtly and yet so surely attunes itself to the ever-shifting emotional moods of the action. Within a matter of moments the many-faceted story shifts the accent from sombre tragedy to melodrama to romance and then to comedy, changing back again as swiftly. Daniels' visual presentation follows these changing emotional cues deftly, and with ever just the precisely right shading. Some sequences are hauntingly beautiful; others are cold and forbidding; others as light and airy as a Lubitsch comedy.

Daniels' camera-treatment of star Margaret Sullavan is a particularly noteworthy example of his sensitive response to story requirements. In one of the later sequences, her dialog brings out the fact that at times she felt old, hopeless and suspicious, and at other times, gay and young. Daniels has the artistic courage to make her look that way. In some scenes he makes her look many years older than either her actual or her character's age; in others, she seems as young and vivacious as the veriest ingenue newcomer. Daniels deserves untold credit for the artistic vision which planned this unconventional, yet dramatically forceful treatment of

his star. At the same time, an orchid apiece is due Miss Sullavan, Director John Cromwell, and the producers for their sympathetic understanding, which must have aided Daniels in his efforts to heighten the effect of the star's characterization.

Daniels' skill is no less evident in his treatment of the other stars. He makes Fredric March, for example, appear ten years younger than we've seen him in many a long year, while his treatment of Frances Dee's all too few scenes should make her a Daniels fan for life. Her characterization, too, is aided by Daniels' photographic skill; the contrast between her vibrant aliveness—albeit marred by terror—in her earlier scenes, and her pathetic appearance in the final sequence in which she dies, is unforgettable. Daniels' effect-lighting in this latter sequence—especially her close-ups—are dramatically and visually compelling. Noteworthy, too, is the very subtle change in his lighting of Fredric March in the long-shots immediately before and after his wife's death: it subtly tells of the psychological and emotional change the man's character undergoes in those few, brief moments.

Innumerable other details deserve mention—the way Daniels' treatment of the scenes laid in Vienna immediately following the Nazi *anschluss* blends subtly with the intercut newsreel scenes of the actual Nazi entry, heightening the feeling of actuality—Director Cromwell's skillful use of silent action to strengthen the effect of innumerable sequences—the special-effects work of Jack Cosgrove, especially the transitions—the musical score of Louis Gruenberg—but space does not permit. Suffice it to say that "So Ends Our Night" is a film of unusual technical excellence, with Cinematographer Daniels at his brilliant best—and it should accordingly be a "must" picture on the list of everyone to whom great photographic achievement means anything!

TALL, DARK AND HANDSOME

Twentieth Century-Fox Production.

Director of Photography: Ernest Palmer, A.S.C.

This production is probably not one of Twentieth Century-Fox's "specials," but Director of Photography Palmer brings it to the screen with a photographic mounting that the producers of many a "super-special" production might envy. In keeping with the gangster theme of the plot, Palmer's camerawork and lighting is harshly keyed and virile. While when the occasion permits, he frequently achieves excellent pictorial effects, he does so without at any time subordinating the strength and realism of his treatment.

Realism, in fact, is the audience's first

impression of "Tall, Dark and Handsome." The film opens with an exterior on a snow-swept Chicago street on Christmas eve in 1928 which is so realistically handled in camerawork, costuming, set-dressing and the like that one feels momentarily that it must be a stock-shot taken from a 1928 newsreel. The rest of the picture maintains this illusion skillfully, though as the action progresses to the gangster's luxurious home, his inevitable super-nightclub, etc., Palmer's camera treatment becomes smoother—but never conventional or moviesque. The early department-store sequence, filmed actually in one of Los Angeles' leading stores, rather than in the studio, merits careful study as an example of what a great cinematographer can do under these none too favorable conditions.

The pictorial highlight of the production is the first night-sequence in the nightclub. With the exception of a single establishing long-shot which seemed a bad match to the rest of the sequence, this part of the picture was a pictorial delight. Palmer has used tonal and lighting contrasts masterfully to achieve striking pictorial effects in almost every scene in the sequence.

As might be expected, Palmer's treatment of the players is excellent. Leading lady Virginia Gilmore in particular has reason to be grateful for Palmer's skill; attractive, but by no means the "glamour-girl" type, with less sympathetic photography her appearance might easily have been such that one would wonder why the tall, dark and handsome gang-leader evidenced such interest in her. Charlotte Greenwood is another member of the cast who should sing Palmer's praises; we've seen her appear to far worse visual advantage elsewhere and on the stage. To be frank, Palmer makes one forget how long ago it was that the lanky lady first appeared in "So Long, Letty."

On the other side of the ledger, a good deal of criticism can be levelled at Director Bruce Humberstone, Film Editor Allen McNeil, and the script clerk. In many sequences, between apparent carelessness in direction and cutting, the geography of the sets is very badly confused, and the direction of movement of the players between their exit from one scene and their entrance in the next—apparently in an adjoining room—is twisted and in some cases actually reversed. In the final sequence, played in a railroad terminal station, Cesar Romero, coming onto the platform to board a train, enters from the left—and a few moments later, the train pulls out, also going to the left. Offhand, we can't recall a terminal station where passengers enter the platform from the engine-end! Someone should have caught these errors, even in a program picture.

MR. AND MRS. SMITH

RKO-Radio Production.

Director of Photography: Harry Stradling, A.S.C.

Special-Process Photography: Vernon L. Walker, A.S.C.

While this is not the first production Harry Stradling, A.S.C., has made in Hollywood since his return from Europe, it happens to be the first this reviewer has seen. And it makes one wonder why our own studios ever let the French and British studios take an artist like Stradling away from them, and keep him so long.

His handling of every phase of "Mr. and Mrs. Smith" is skillful and imaginative in high degree. In collaboration with the always clever Alfred Hitchcock, he has made very subtle use of camera-angles in the early sequences to aid in planting the impression that the chief protagonists are, to say the least, slightly pixillated characters. The angles he uses in presenting these characters in that vital first few hundred feet while the audience is getting acquainted with them does fully as much as dialog and action to get this impression across.

His treatment of Carole Lombard is a definite asset to that young lady. She is not, and never has been a subject suited to conventional camerawork and lighting. Stradling gives her a simple, forceful key-lighting rather reminiscent of the style with which Josef von Sternberg, A.S.C., made Marlene Dietrich famous. For Miss Lombard, this treatment does two things: it first accentuates her good features (while concealing her less favorable ones), and secondly, gives her a more decided visual personality, which is greatly to her advantage. To put it bluntly, she looks better in this picture than she has in any another.

Special-process cinematographer Vernon L. Walker, A.S.C., also makes notable contribution to "Mr. and Mrs. Smith." In addition to several process sequences in autos, sleighs, and the like—all very well executed—he had to bring to the screen one of the dramatic highlights of the script, in which Miss Lombard and Gene Raymond find themselves marooned in midair as the "parachute jump" ride of last year's New York World's Fair ends, leaving them suspended half-way down. His work here is excellent, for although you know it must be a process-shot, you are never forcibly reminded of the fact.

VIRGINIA

Paramount Production (Technicolor).

Directors of Photography: Bert Glennon, A.S.C., and William V. Skall, A.S.C.

Process Photography: Farciot Edouart, A.S.C.

As might be expected, Bert Glennon, A.S.C., given another Technicolor production to handle, and with the capable Technicolor cooperation of William Skall, A.S.C., again distinguishes himself. Most of the exteriors for this production were filmed on location in Virginia, and as seems inevitably the case with Techni-

color films embracing an unusual number of location exteriors, these scenes seem to have made the greatest appeal to the lay critics, who dusted off their favorite catch-phrases about breath-taking photography.

For this reviewer's money, however, much of the really best photography in the film was in the interiors, which Glennon has invested not only with high pictorial beauty, but also with visual mood which excellently sets the stage for the dramatic mood of the action. The contrast between Glennon's visual treatment of the interiors of the estates still inhabited by the impoverished Virginians and those purchased by the more opulent northerners does more to establish the divergence of thought and circumstances than pages of dialog.

The process photography of Farciot Edouart, A.S.C., is notable, also as usual. Inevitably, there is a great deal of this—one of the principal players even played her entire part without setting foot in Virginia—and it is done with uncommon skill, even for the always-meticulous Edouart. The majority of the process-shots are of scenes which could quite logically have been made by conventional methods—and they are so perfectly executed that even an expert must guess which is normal camerawork and which is process. The scenes of Fred McMurray and little Carolyn Lee, for example, fishing on the placid river, are really notable examples of the skill with which Edouart blends the perspective and tonal qualities of projected background and actual foreground. Viewing the picture, reason insisted that this scene must be a process-shot, but there was absolutely no visual evidence to support the conclusion; yet inquiry proved that it was.

On the less favorable side, both Paramount and Technicolor should be severely criticized for previewing such a poor print as was the case when they previewed "Virginia." During recent years it has been the writer's misfortune to see many indifferent prints—and some downright bad ones—previewed; but never a Technicolor print of an outstanding production which did more injustice to photography and production alike as in this case. Repeatedly there were scenes and parts of sequences which were not yet printed in the correct color-balance; one entire exterior sequence was printed at least three or four printer-lights too dark. Of course, Technicolor can and will turn out better release-prints. But that "Virginia" received such general commendation for its camerawork in spite of the shortcomings of the print previewed is in itself glowing praise of what Glennon, Skall and Edouart achieved. We'd like to see "Virginia" again—in a really well-balanced print, and one which had had the benefit of a bit more editing.

MAISIE WAS A LADY

Metro-Goldwyn-Mayer Production.

Director of Photography: Charles Lawton, Jr., A.S.C.

In many ways this is the most pretentious of the "Maisie" series, and Director of Photography Charles Lawton, Jr., A.S.C., has done his part by giving it an excellent visual presentation. Most of the action is played against expansive sets representing something a bit palatial for even a movie millionaire's estate, and Lawton has lit his scenes in a way that takes full advantage of the luxurious form and texture of his settings. The smooth richness of his camerawork adds immeasurably to the dramatically desired impression of opulence.

He had a tricky problem, too, in keeping his visual mood keyed correctly to match both the wisecracking mood of the leading character, and the note of sombre, foreboding tragedy necessitated by the other characters and the plot. He has done this so skillfully that even in the moments of the most far-fetched comedy director and writers could conceive there is a constant undercurrent of foreboding which springs more from the film's photographic mood than from any other source.

Lawton's treatment of the players is also more than ordinarily good, with perhaps the single exception of one or two close-ups of Maureen O'Sullivan which should by all means have been re-taken. The special-effects work is also excellent; both matte-shots and projection-shots have been very capably handled, and add much to the production. In a word, in spite of the handicaps of unusually trite dialog and a somewhat obvious plot, Lawton's camerawork does much to make an "A" picture out of one which, while much more lavishly produced than most "series" films, can hardly otherwise escape a "B-plus" rating. And that, gentlemen, takes genuine cinematographic skill!

THE INVISIBLE WOMAN

Universal Picture.

Director of Photography: Elwood Breadell, A.S.C.

Director of Special-Effects Photography: John P. Fulton, A.S.C.

Some six or seven years ago Universal made a super-horror production called "The Invisible Man." Today, the same company gives us "The Invisible Woman"—a picture as different from its predecessor as night from day. One was a straightout horror film; the other a comedy, with mystifying camera-trickery thrown in—and produced on something mighty close to a "B-picture" budget, to boot.

The honors in this case are definitely with the phototechnical staff. John Fulton, A.S.C., has advanced his "invisible man" trickery a long way since he first startled audiences with it. To be sure, in this opus he does many of the same old tricks, but he does them very smoothly indeed—and with a much more attractive subject in Virginia Bruce than was Claude Rains in the earlier film. Furthermore, in the earlier effort he had the advantage of relatively low-keyed photog-

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16MM. GOES GLIDING

By JOHN W. LOVE

and

JAMES H. LOVE



Frame enlargements from "Sailplane." Top to bottom: main and credit titles; take-off; climbing; turning; soaring beside cliffs.

WE started this film with no knowledge, and therefore no preconceived ideas about gliders or flying. We happened to see some sailplanes flying in a field by the road one day and, impressed by their graceful flight and general pictorial qualities, decided to make a film about them. Treatment and script immediately became associated in our minds with answering the questions that we ourselves were asking: What is a glider? How does it fly? And later, after we began to learn a little about the possibilities of motorless flight: How can a glider remain in the air for long periods of time and travel long distances? Talking with glider pilots, however, led us to believe that there was something even more important than a presentation of facts; that here was a superb sport which offered something unique and deeply satisfying to its devotees. In short, we began to suspect that glider flying was fun, and we wondered if it would be possible for us to give, on the screen, some impression of what it feels like to fly.

We were fortunate in getting the wholehearted cooperation of W. Hawley Bowlus, pioneer American glider expert, who has been designing, building and flying gliders for twenty-five years. Mr. Bowlus, because he thinks that more people ought to know about gliders, contributed not only invaluable advice, but a plane and his service as a pilot. We agreed that, with gliding a sport known to relatively few people, it was essential that a part of our film be devoted to an introduction to gliders. Having been introducing people to gliders for a quarter of a century, Mr. Bowlus was well acquainted with the questions asked, and answering these was the basis for the introduction. This involved nothing more than a simple presentation of the subject-matter, and brought up no special technical problems. Some of the points might have been more forcibly presented by means of animation or working models, but we were without the necessary facilities.

The research necessary in planning our introduction led us to believe even more strongly that, in order to present a complete picture we would have to bring to the audience the sensations of flight. This, so far as we could determine, had never been attempted on the screen. Flight sequences in entertainment films, some of them magnificently done, make the flying incidental to the story. What we wanted to do was to concentrate on the flying itself.

Neither of us had had any flying experience whatever. Reading and questioning pilots brought forth nothing of any value to us. We gathered that fliers were enthusiastic, but none seemed able to give a description that meant anything to us. It was evidently something that we were going to have to find out for ourselves.

At the suggestion of Mr. Bowlus, we decided to learn to fly, taking a regular course of instruction in a light plane and getting in about six hours solo. At the end of this time we had had enough flying to know what it felt like, but not enough to make us forget our first impressions. This left us in a position where we knew what we wanted to do, and the problem resolved itself into one of treatment and technical limitations.

The treatment, we thought, had to be such as to make the film as esthetically satisfying as possible. A glider in flight is very beautiful. You are immediately struck by the resemblance to a flying bird. You are struck by the fact that here is the realization of a dream that men have dreamed for countless centuries. Here are men flying like birds, silently, gracefully. And suddenly you begin to think of the aeroplane, with its noise and vibration, as being an accident of the machine age that temporarily diverted attention from this more real, more fundamentally satisfying kind of flight.

Feeling as we did about the subject it seemed impossible to get satisfactory results with anything but Kodachrome. Special efforts were made in all phases of treatment to make, in all respects, as beautiful a film as possible.

Our equipment was good, but far from elaborate: a Bolex camera with wide-angle, 1-inch, 2-inch, and 3-inch lenses, (the latter two adapted by ourselves from still cameras) and a tripod. In addition we had a matte box, a dolly



Camera mounted on glider in position to make shot shown in bottom frame at left.

and a frame counter, all made by ourselves. Our problem was, with this equipment, to make a pictorial record of a glider flight from the pilot's standpoint, inviting, as it were, each member of the audience to share the experience. Obviously it would be impossible to do this by taking pictures of the glider from the ground. Aside from the consideration that this is the viewpoint from which all groundlings see planes, and get therefrom none of the impressions of flight, it is impossible in this way to give any idea of the movement of the plane with relationship to the ground. It is, moreover, very difficult to get anything but the "here he comes—there he goes" type of shot which we expressly wished to avoid. Taking pictures of the glider from another plane was discussed and found impractical, not only because of expense, but because this too consists, essentially, of standing on the outside and watching somebody else fly.

So we tried working on the idea of making the camera the eyes of the pilot. This cannot produce satisfactory results if rigidly followed, but it did lay the basis for our treatment. We tried to show the things that are sensed, rather than strictly what is seen from the cockpit. The pilot is always conscious of the plane supporting and surrounding him, even though he sees little of it but the nose, and it becomes for him the one stationary thing in a world that constantly moves beneath him. This dictated the camera position as being attached to the plane itself and, remembering the pilot's consciousness of the plane, set so as to include in the frame an easily recognizable and comparatively large section of the plane itself.

Here we began to run into technical difficulties. The so called wide-angle lens (15mm. focus) of the 16mm. camera doesn't really give a very wide angle of view. If we had had the time and money we might have tried to get a nine or ten millimeter lens ground for us. As it was, we went about it the other way and tried to get more into the frame by getting the camera as far from the plane as possible. We got some aircraft steel-tubing and, with the help of Mr.

Bowlus, designed several camera-carrying struts to be attached to the plane. One clamped around the wing and supported the camera at a position about seven feet forward of the leading edge of the wing. Another clamped around the boom (a tube of dural six inches in diameter which supports the tail surfaces). Due to this unique feature in the construction of the plane, this particular support, which was about six feet long, could be used either vertically or horizontally. Coming off the horizontal boom at an angle of about seventy degrees, this support could be clamped at the extreme rear of the boom and angled back to support the camera over the rudder. Or it could be placed just behind the wing and angled forward to support the camera almost directly over the pilot. In horizontal position it gave a camera-position just off the end of the elevator surfaces, on either side. One other bracket was used to hold the camera right alongside the pilot's head.

To attach the camera to these fittings we needed a light, strong mounting, capable of being easily adjusted to any desired angle and which, once set, would be unaffected by the jarring of takeoffs and landings in rough fields (Glanders don't fly from airports with concrete runways!) We investigated all of the tripod-heads on the market without finding anything suitable. The accompanying photographs show the support which we built, which worked very well. One of the reasons for discarding all tripod-heads was that the tilt axis is always below the camera and several inches from the center of gravity of the camera. There is no objection to this when the camera is in normal position, but when swung to point straight down, the camera assumes a position where its weight exerts quite a large turning moment about this axis. Another objection was that a normal tripod-head can be supported from the bottom only. We needed a mount that could swing the camera either above or below the supporting strut.

In our mount we kept both pan and tilt axes as near the center of gravity of the camera as was possible. The mount consisted of a length of $\frac{1}{2}$ -inch steel tubing with a bend in it. For attaching to the strut this has a cone and a piece of threaded rod welded to one end. This end was passed through a three-inch length of $\frac{5}{8}$ -inch steel tubing, another cone slipped on over the screw and tightened with a nut. One of these three-inch lengths of five-eighths-inch tubing was welded to the strut in approximately vertical position at every point where the camera was to be used, allowing us to swing the camera from any desired point. The tilt adjustment worked around a $\frac{3}{4}$ -inch bolt which was bored to permit the passage of the $\frac{1}{2}$ -inch vertical tubing. Two thick dural washers were made to pass over the bolt and clamp around the tubing. This construction not only tilted, but allowed the camera to swing around the tube at this point, both move-



Top to bottom: Passing sailplanes; nosing down; turning—as the pilot sees it; close-up; coming in to land; end-title. 16mm. frame enlargements by Pat Clark.



pecially-built camera-mount and electromagnetic remote-control release.

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HINTS ON Keeping Scenes in Focus

By A. L. GILKS, A.S.C.

WHEN you come right down to cases, there's not nearly so much difference between the problems of professional and amateur cinematographers as you might think. The professional's problems are on a bigger scale, maybe, but they're surprisingly similar, for all that. An out-of-focus scene, for example, is still out of focus regardless of whether it is shot in 35mm. with a \$10,000 Mitchell or in 8mm. with a \$10 Univex. And methods that help prevent such an occurrence in the Mitchell are likely to work just as well for the man who uses the cine-eight, too.

Studio cine-cameras are fitted with beautifully-made focusing mechanisms by which the film-carrying assembly is slid out from behind the lens and replaced by a ground-glass focusing-screen which, in turn, is viewed through a precision magnifying eyepiece system. You might think this sort of a set-up would automatically cure the professional's focusing worries. But it doesn't. There's always a chance that some tiny mechanical or optical element might jar microscopically out of place, or that some of the peculiar optical characteristics of our modern fast lenses might fool even the cameraman's trained eye. So the professional doesn't put his whole trust even in this de Luxe set-up.

What does he trust? Well, he knows that his lenses have been mounted on the camera with scientific precision. He knows that the focusing-scales on these lenses have been calibrated with absolute accuracy.

So before shooting a scene, he carefully measures the distance between camera and subject with an ordinary tape-measure! If the measured distance fails to agree with the focal setting obtained visually, it's just too bad; you can't argue with a tape-measure. So he sets his lens' focusing-scale according to the tape-measure's indication; he *knows* that will be right.

Amateur filmers who use lenses in focusing mounts will find their worries about correct focus eliminated by following this simple professional practice. The amateur can also take another focusing tip from the professional: since the use of the tape is a routine part of making every professional "take," the professional keeps the free end of the tape permanently hooked to his camera. Thus all the assistant cameraman need do in "running the tape" before a scene is to pick up the reel of the tape-measure, and walk out to the point of focus. Holding the tape taut—not an unpleas-

ant assignment when the point of focus is just above a glamour-girl's smile!—the assistant need only glance down at his hand, and there the tape immediately tells him at what distance to set the lens.

The amateur can follow the same example. A small hook can easily be placed to hold the tape at the side of the camera. Another small hook can be fixed to the case of the tape-carrying reel so the tape can be conveniently hung on the tripod, without having to unhook the free end from the camera.

For that matter, most studio camera-crews like to hang a little canvas pouch to their tripod-heads as a sort of gadget-carrying catch-all. If you looked into one of these gadget-bags you'd find in it as heterogeneous a collection of oddments as you'd encounter in a woman's purse. Camera-cranks—punches for notching film—exposure-meters—a flashlight—bits of chalk—and always a roll of adhesive tape.

I'm glad we noticed that the chalk and tape, by the way. They play a big part in making sure of focus. How do you suppose professional actors manage to walk freely around in their scenes, yet always land at a point in precisely correct focus each time they stop—?

Of course the skill of the assistant cameraman, who stands by and manipulates the focusing dial of the lens, at each point setting at calibrations carefully prearranged during rehearsals, plays the biggest part in this. But if the actors didn't know precisely where they were supposed to stop each time, the assistant's planning would go for nothing.

There's where the chalk and tape come in. During the rehearsals—as soon as the director has worked out his action to a point where he knows further changes are unlikely—each actor's foot-positions are carefully marked. In some instances, chalk-marks are used; in others—especially when working on carpeted or highly polished floors, strips of the adhesive-tape are employed.

In either event, a V is marked in front of each of the actor's feet. This is done for every position where focus is important. Thus the actor can leave his position, walk clear around the set, and yet come back always to the position that will get him precisely in focus.

This little trick can certainly be applied to 16mm. and 8mm. moviemaking. I've seen amateurs, when working outdoors, scuff little foot-marks in the dust or grass to show their subjects where to stand, but they seldom seem to do it

indoors. And indoors, when you're working with your lens wide open, and hence at its shallowest depth, is where you need this trick most! Generally you'll find the use of adhesive-tape the most convenient, since it doesn't mark up wife's carpets or polished floors the way chalk does; a quick pull, and your tape is removed without doing any damage!

Have you ever wondered how in close shots professional actors can walk along, or even dance, without going out of focus? Different studios use different methods, of course, but here's one that can be adapted to amateur use. Making dancing shots, for instance, the players are often enclosed within a good-sized hoop, placed low enough to be out of camera-range, and attached to a pole which in turn is attached to the camera's tripod or dolly. Thus they can dance quite freely within the confines of the hoop—and they simply can't get out of focus! Similarly, in making close dolly-shots of people walking, a T-shaped pole is sometimes attached to the camera-dolly. The actors walk along so that they keep their bodies against the crossbar of the T—and again, they automatically keep themselves in focus.

The hoop gadget is a bit intricate for most ordinary home movie-making; but the other one can be used surprisingly easily. For your dolly, simply use a child's coaster-wagon. Then you can mount your focus-insuring pole in one of two ways. You can fit it simply as an extension of the wagon's regular handle—in which case your muscular assistants would have to pull the wagon along backward. Or you can bolt the pole onto the back end of the wagon; your assistants would probably thank you for that, since they'll find it easier to pull the wagon along forward than backward.

Another thing you'll notice about focus if you watch professional pictures closely is that as actors and camera move about the set, the focus is constantly changed so that the principal players are always kept in good focus. This is part of the assistant cameraman's job—and if he does it well, you're seldom, if ever, conscious of the changing focus.

Fortunately for the amateur, the 25mm. lenses most frequently used on 16mm. have such great depth of field that this focus-following isn't nearly so necessary in 16mm. as in 35mm. As for the 12½mm. lenses used in 8 mm., even wide open these extreme short-focus objectives have tremendous depth. But even in 8mm., you'll sometimes encounter a scene where following focus may be necessary, or at least helpful.

Once you've done it a couple of times, it isn't nearly as hard as it sounds. Quite a few amateurs I've known have followed focus successfully with exposure, opening or closing the diaphragm to keep the exposure correct as the subject moved from sun to shadow, or vice-versa. It can be done just as successfully with focus, too.

Most home-movie follow-focus shots will call for but one or two changes of

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scenes depicting life on the plantation were taken at the Kellogg Ranch. As it was necessary to film such scenes on Sunday, it meant doing so in the presence of literally scores of onlookers who gathered there for the weekly horse show. I can assure you that it requires courage to be dressed as a belle of the 1860's as was Miss Story on those occasions and yet be expected to act nonchalant before the bewildered stare of the crowd.

To obtain a wagon with which to depict the trek to Oregon, without the expense of renting a horse as well, offered a problem indeed. After a lengthy search, a ranch-owner in the vicinity of my week-end place offered the use of an antiquated wagon which had stood unused in his barn for more than twenty years. It was exactly what we desired for the picture as it dated back almost eighty years, but the farmer could not offer a horse trained to pull it. It was necessary to lift the wagon up on stilts and film it from the ground with the wheels spinning to create the effect of motion. Long-shots of us loading the wagon were accomplished by coaxing, with considerable effort, an untrained horse to stand before the wagon while we decorated him with various bits of antiquated harness and trappings, not knowing at what moment during the scene our horse would bolt away, leaving the wagon unattended!

Our most hectic experience occurred when we discovered that it was necessary to borrow costumes from the friend a second time for retakes, with the discovery that they had been packed away

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Fun and Headaches Making

AN 8MM. COSTUME PICTURE

By HAROLD E. REMIER

Los Angeles 8mm. Club

THE filming of a period picture such as "Diary" presents many problems for an amateur photographer. Costumes, props and locations are usually difficult to acquire without the outlay of considerable expense. However, in this instance, I was very fortunate in enlisting the cooperation of an interested assistant, Miss Lucy May Story, who both contributed the leading role in the picture and did much to smooth away difficulties as they arose.

Photographing "Diary" covered a period of several months; five to be exact. However, there were periods of many weeks between shots, during which we were awaiting favorable conditions for obtaining the best possible results for outdoor filming. As I found it necessary to wait for week-ends for my outside shots, many of those were either rainy or cloudy, with the result that our work was frequently postponed.

A thoughtful consideration of the material at hand with which to work played an important part in choosing the plot of "Diary." Miss Story's home is of the Southern Colonial type, furnished with many authentic antiques; a friend collects historic costumes as a basis for

lecture tours, while I personally list a small ranch house among my assets. These three factors alone formed the basis of the picture, and it was agreed that the plot finally chosen exploited our material at hand to the best advantage. The plot is as follows:

Briefly, prior to the Civil War, a young couple elope and later reside on a large plantation of the Old South. During the years of the war, they lose everything and join the exodus to Oregon and a new life. With only a few personal belongings and a borrowed wagon, they finally reach Colorado, where the wagon breaks down with the result that, in desperation, they build a home on an abandoned mining claim. The husband discovers a rich vein of silver and sudden wealth takes them to Denver, where a parting is brought about through a flirtation between the husband and an opera-singer. Many years pass, a crash in the silver market makes the husband penniless but restores his senses; a reunion at the old mining claim closes the picture.

While it may easily be seen that this plot could be well adapted to our props and locations, many problems arose during the filming of the picture. Most



Two scenes from Harold Remier's 8mm. period production, "Diary."

Commonsense TITLE-MAKING

By CLAUDE W. A. CADARETTE,

Founder, L. A. 8mm. Club.

THE first impression any audience gets of a picture comes from the main title. Therefore titles should be as carefully executed as possible to increase the desire of the audience to view the balance of the picture. The name of the picture should be apropos to the story, and cleverly worded to incite appeal. Just as book titles are worded to catch your eye at the book stalls, your films need this peculiar interest to create a receptive mood in the audience.

However, wording of the title is not sufficient to guarantee its attractiveness. The neatness of lettering, balancing and spacing of the words are integral parts to be seriously considered. Typewritten titles have no place in any kind of a picture.

The style of letters should conform to the type of picture as near as possible. Scenarios of a historical theme should be titled with an Old English style, while a Bold Gothic is suitable for a murder or dramatic type of picture. Various letter styles can be composed to be consistent with the film if a little ingenuity is used by the producer. You have undoubtedly noticed that the titles on the professional screen are often made in a higher key than formerly, replacing the old white letter on black backgrounds. In order to avoid too white a screen, the titles are carefully shaded and often spotted with shadows. It is just as important to properly light a title imaginatively as it is to correctly light a portrait. Modern titles have not the extreme contrast as in former times, but are smooth blendings of light and shadow used propitiously to make for easy reading and a decorative screen.

After an attractive main title has flashed on the screen, the subsequent titles of credit should be in the same lettering style and lighting. The only changes that are apparent are the size of the letters and wording of the title. The lighting effects should remain the same through the entire set of titles in order that the screen brilliance be uniform. The last title should always fade out to end the sequence, then fading in to the first scene of the picture.

I don't want to give the impression that your titles should be decorative or gaudy to an extreme point, because a meretricious display of titles will also detract from your picture.

The use of subtitles in the scenario should be very limited, and used only for such places where the action of the story fails to relate the change of plot, location or time. Titles, at their best, retard the tempo of any picture, and should be substituted whenever possible by the use of montage-effects or pictured abstractions. In travelogues, the use of road-signs, or guide-posts will eliminate a large number of monotonous subtitles and maintain the tempo of the picture to a greater extent.

Conversational subtitles are less distracting when broken up into phrases and interspersed between scenes of the character. As an example, we first view the close-up of a girl as she starts to speak "The doctor says he will die—" then cut back from this subtitle to the girl as she continues to speak "—unless he has an operation." Another cut-back to the girl as she finishes speaking, then a cut to the other character who has been listening to her. This type of back-and-forth cutting will lessen the retarding of the tempo as each subtitle does not remain long on the screen. Keep all conversational subtitles as short as possible and endeavor to tell your story as clearly as possible with pictures.

Lapses of time are more effective when pictured by shots of a clock, calendar, hour-glass or some object synonymous of a passage of time rather than a stereotyped subtitle of "Meanwhile" or "In the Meantime." The use of a fade-out and fade-in will often serve this purpose, but it is well to remember that pictured actions should be kept on the screen as much as possible so that the mind of the audience has no opportunity to relax. Keeping their minds constantly alert is a good indication of a fine film.

Too many amateurs have a feverish desire to animate their titles by having the letters jumping all over the screen. This practice, as I see it, is a deplorable exhibition of egoism. My reaction to a title of this nature is unkind as it seems to display a cameraman's ability to shoot single frames. Nothing is gained by jumping letters and it is certain that the title must remain on the screen for a longer period, whereupon the title gets two strikes against it.

Do not confuse an animated title with the titles which are lap-dissolved or superimposed on a moving background. Beautiful, smooth transitions of titles

can be done by lap-dissolving from the main title to the credit titles without creating a screen disturbance. A pleasant first impression will be gained by this method and if it is well executed, the film will merit a higher rating in a contest. Wipe-off titles are also attractive and disclose a better knowledge of technique on the part of the cameraman.

Superimposed titles on moving backgrounds are excellent for main titles of documentary or travelogue films *provided* that the background scenes are properly related to the balance of the film subject. A main title of "Washington, D. C.," superimposed over a picture of the White House or "Cotton" on a plantation background are co-related—but don't use a title of "Yellowstone" on a background of the Grand Canyon.

Kodachrome titles are more difficult to film, because in addition to all of the problems encountered with black-and-white titles, a great deal of consideration must be given to the choice and hue of color used in the background and in the lettering. It is commonly known that red letters on a green background will cause an illusion by which it appears that the letters move, so it is obvious that this combination cannot be restful to the eyes, and more obvious that it has no place on the screen. One should confine their use of colors for backgrounds and lettering to the tints and shades of the primary colors and never use the full strength of a primary color. Brilliant colors are disturbing and gaudy, while the softer shades will, if correctly chosen, provide sufficient contrast for easy reading.

It is a common practice to use tinted positive film-stock for titling Kodachrome. Of course, this is better by far than using a black-and-white title in a color film, as the eye becomes accustomed to viewing color. It is entirely unorthodox to subject your audience to a combination of color and black-and-white strips of film in the same reel and tinted stock will help considerably to overcome this deficiency.

Yet, as the use of titles is kept as a minimum, isn't any color film that warrants the expense of titles deserving of titles made with Kodachrome? It would be unwise economy to attempt to save money on the shortest strips in a reel.

An interesting way to introduce a scenario or travelogue with a different slant will add more zest to the film. I have in mind a few films that have opened with a fade-in of a person seated in front of a fireplace, reading a book. A medium shot registers the hands closing the book, showing the title on the cover. Another shot of the person lap-dissolves into the first scene of the picture giving a transition of the man's thoughts. One film that opened this way was Randolph Clardy's "New Horizon;" another was Harold Remier's "Diary."

Another idea for a travelogue can be used by opening the picture with a shot

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Caribbean Camera Cruising

By

**CHARLES W. HERBERT,
A.S.C.**

ONE of the most accessible and promising fields open to the amateur travelloguer today lies in the Caribbean Sea. Here a string of islands, like stepping stones, form a huge two thousand mile bow stretching from the tip of Florida to the north-central projection of South America. Along its roadways and channels have sailed an endless procession of adventurers and treasure seekers since Columbus first sighted San Salvador in 1492.

Today, well-appointed cruise ships carry you in complete comfort along courses laid down by discoverers, adventurers and conquerors. A trip through the West Indies should net you enough to make several reels. On my last trip there I turned out seven "Going Places" reels for Universal in five months. If you've enough wind in your sails and film in your camera, there's plenty to keep you busy for several months, if you can spare the time. But if your trip is limited to the usual cruise schedules you can still count on filming the highlights at each port of call.

February, March and April are ideal months for a trip through the West Indies. The sky is blue, usually decked with clouds; the sun is warm and yet the air is not depressing. You will have lots of ambition and inspiration. There is a popular fallacy about the West Indies which photographers seem to pass on. They say the light is intense and that you will burn up your film. I've found very little difference between working there and high up in the Rocky Mountains when the general character of the picture was the same, that is, when the composition is made up of green grass, trees, mountains with pre-

dominating green, and blue skies with occasional clouds.

There are times, though, in tropical cities when glaring white buildings predominate in your picture, when you will need to cut down your exposure greatly. It is not the longitude or the latitude which is responsible, but the character of the man-made structures. It is particularly difficult to get an even exposure looking down a street that has sun on white buildings on one side and heavy shadows under sidewalk-coverings on the other. A graduated filter set vertically in your camera so that the heavy area covers the bright side of the picture and the clear area overlaps the shady side of the street will do the work as well as can be expected.

Since any photographer journeying through the West Indies would be on a picture-hunting expedition, I am going to try to list the outstanding features of each island with which I am acquainted.

Cuba, our nearest neighbor, and the island most visited by American tour-



Virgin Island Cowboy.

ists, is surprisingly long and varied. Good roads will carry you from one end to the other and if you have the courage to ride the busses you can cover a lot of miles for a few dollars. In Havana, the government buildings are certainly worthwhile, and the Prado is a feature to cover with high shots and intimate close-ups. There is more night-life and sports activities in Havana than in any other city in the whole group of islands, so that is the place to get these features.

Night clubs with typical Cuban atmosphere abound, while gambling casinos and bars are easy to find and shoot. With your pockets full of photofloods you can easily get the essential close-ups by substituting one of your bulbs for the regulation house bulb. Be sure that the voltage is correct though, and that your base will fit the house sockets since electrical fixtures do vary in foreign countries.

Usually you can get a satisfactory general view of a well-lighted room with Super XX Panchromatic film. If you have enough time you can always arrange with the management to put in special photoflood lighting with reflectors if you are determined to shoot color inside. I believe it is more satisfactory and effective to save your color for exteriors and shoot all interiors with little light on black and white film.

Havana has a race-track where the setting, action and atmosphere are made to order. There are fashionable beaches nearby with distinctive touches for your composition. The Jai-Alai Fronton will give you plenty of unusual sports action. If your visit coincides with a National Lottery drawing, you will have a feature that is outstanding. The drawing can be nicely tied in with the ticket sellers who are on the streets everywhere. In the rural districts you can feature



Shore Boat.

the majestic Royal Palm in sugar cane harvest scenes. Cattle-raising is a big industry in the southwest and manganese mining is important.

Just off the southwestern coast of Cuba are two islands worth side trips. The Isle of Pines is a quiet resort spot and has on it the Model Penitentiary which is most unusual in its architecture and management. Grand Cayman, which is British, is a small primitive island where the natives are famous as boat builders and where the green-back turtle industry centers.

East of Cuba is Haiti, surely the most colorful of all in primitive aspects. At Jacmel, stevedores make a ritual of loading the coffee into boats. About twenty men, each carrying a hundred-pound sack on his shoulder, are led from the warehouse by a crude fife and drum corps playing primitive tunes. The stevedores chant while they work.

Around Port au Prince, woodworkers use saws and lathes hand-powered and fashioned in a Rube Goldberg style. In the morning there is a constant stream of women and donkeys coming to town with loads on their heads and backs and often you will see a woman on top of the load the donkey is carrying. Along country roads there are picturesque religious shrines. In the villages crude ox-powered presses grind sugar-cane and men whip-saw huge logs by hand.

Shots of Christophe's Citadel inside and out will reward you for the hard trip by donkey from the base of the mountain.

Adjoining Haiti is the Republic of Santo Domingo. Unless you have time for an expedition into the interior, the principal interest here lies in the capital city. There are some ancient buildings and the church where the Santo Dominicans claim Christopher Columbus is buried.

East across the channel, you come to Puerto Rico with its capital and center of activity in San Juan. Morro Castle which guards the harbor entrance is photogenic from all angles, and on a day when the sea is rough you can get some spectacular waves breaking on this buttress. Inside the fortress is a golf-course which you would readily recognize as an unusual feature.

Just off the coast, a tiny isle is being used for the scientific study of monkeys, which are allowed the freedom of the island. A special permission will be needed to visit this island but it really is worthwhile if you can arrange it.

The countryside of Puerto Rico is scenically beautiful but lacks any outstanding features worth concentrating on. There are large coconut plantations on the southwestern coast where you can get effective harvest scenes as the coconuts are gathered, husked and the meat removed to be dried for copra. Sugar plantations are on a large scale with modern methods if you are interested in that aspect. In Ponce, on the south-central coast, there's a volunteer fire department which, if you can arrange to get it in action, is worth con-



Native 'Bobby', Barbados.

siderable footage.

Nearly everyone takes a small steamer, The Catherine, which runs from San Juan to St. Thomas in the Virgin Group. But the Pan American Airways flies the same route and there is also a small motor launch that makes a night crossing from the eastern tip of Puerto Rico to Charlotte Amalie, St. Thomas.

St. Thomas is truly different. The Danes left their mark with typical buildings in Charlotte Amalie, the capital, and on the countryside. By all means feature the enclosed gardens, iron-grilled balconies, statues above doorways, and winding stairways. The native hand-craft co-operative is worth a visit and if you inquire, the management will tell you where to find some of the natives at work on delicate pieces. Perfume shops and Danish silverware stores are also tourist attractions if you want to include the wife's shopping in your film.

Blue Beard and Black Beard, notorious pirates in the days when wild adventure rode the Caribbean, both built towers on St. Thomas. They are still standing; one is in the backyard of a private home and is used as a water tower, while the other has been incorporated into the new and elaborate Blue Beard's Hotel. They are both good for a shot.

St. Thomas is different in structure from most of the other islands. It is almost entirely mountainous except for a few narrow strips along the coast. Although pretty to look at the country does not shape up into worthwhile picture composition. There is an unusual agricultural endeavor at the TuTu Ranch where about one thousand milk cows are being raised for export to neighboring islands. The cowboys are negroes who wear ten-gallon hats and rubber boots!

On a narrow neck of land on the out-

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Windmill, Barbados.

ONE of the real problems of movie-making is that of finding stories in which "teen-age" youngsters can appear believably, and yet at the same time be doing something with enough dramatic interest to make an entertaining film. This month we have the privilege of presenting such a scenario, written by sixteen-year-old film-star Ronald Sinclair, who made it into a successful 8mm. talkie (see *AMERICAN CINEMATOGRAPHER*, September, 1940, P. 419). We present Ronnie's script in its original form, including dialog. For those who may wish to film this story as a silent film, we suggest that the speeches printed in heavy type can be used as titles.—*The Editor.*

MAIN TITLE:
IT HAPPENED ONE DAY

CREDIT TITLE

The Cast
Bob Sheffield
Nan Young
Billy Young
Art Simmons

Scene 1: Long-shot. Bob and Nan are walking home from school, books under their arms, approaching the camera along a quiet street.

Scene 1-a: Medium trucking-shot. Bob takes Nan's books. (For silent picture, after this action break the scene into individual close-ups, to intercut with spoken titles.)

Bob: Who was that new kid in school today?

Nan: Oh that was Art Simmons. Nice, isn't he?

Bob: Yeah, I guess so. How'd you make out in the test today?

Nan: Fairly good.

Scene 2: Long-shot. A flashy-looking car drives up.

Scene 3: Close-up of Art Simmons in car. He turns and speaks.

Art: Hey Nan! Wanta ride home with me?

Scene 4: Close two-shot, Bob and Nan. Nan (turning to Bob): It's Art. (Calling offstage): Okay. (Turning again): Do you mind, Bob?

Bob: I guess not, if you want to, Nan.

Nan: Oh, thanks a lot, Bob.

Scene 5: Full two-shot. Nan takes her books and races over to the car, gets in and drives off with Art. The camera pans with her.

Nan: Good-bye.

Scene 6: Close-up of Bob. He follows the car with his eyes. FADE OUT.

Scene 7: Long-shot. Art drives up to Nan's house. As she gets out of car, her younger brother, Billy, races up to her.

Scene 8: Three-shot, by car.

Nan: This is Billy, Art. He's my brother.

Art: Hi ya, Kid.

Billy: Hello. Is this your car?

Art: You betcha it is.

Scene 9: Close two-shot, Art and Nan.

Art: How about taking in a show with me tonight?

Nan: Well—er—all right.



Photographed on Agfa Film.

Scenario for "Teen-Age" Troupers

By Ronald Sinclair

Art: I'll pick you up at seven. So long.

Nan: Good-bye, Art. I'll see you then.
FADE OUT.

TITLE:

TWO WEEKS LATER

Scene 10: FADE IN. Interior medium-shot of Bob, reading.

Scene 11: Medium close-up of Bob. Slowly he raises his head to right of camera. DOUBLE EXPOSE (fading in and out) "flashes" of Nan and Art playing tennis, swimming, going to show, skating, driving, etc.

Scene 12: Medium-shot. Bob suddenly snaps out of his mood. A decisive gleam comes into his eye. He gets up and walks out of scene. FADE OUT.

Scene 13: FADE IN. Exterior long-shot. Bob walks decisively up to Art's house.

Scene 14: Close-up of Bob's knuckles

knocking on door, or hand ringing doorbell.

Scene 15: Tight long-shot of door. Bob, back to camera, in foreground. Art comes to the door.

Art: Well, hello Bob. Come in.

Scene 16: Close medium-shot of Bob.

Bob: I'd rather not, thanks.

Scene 17: Close-up of Bob, obviously angry.

Bob: You think you're pretty smart, taking Nan out, don't you?

Scene 18: Close-up of Art. A sneer comes over his face.

Art: Can I help it if she likes me more than you?

Scene 19: Close-up of Bob, infuriated.

Bob: Why for two cents I'd—

Scene 20: Medium-shot of Art, clenching his fists.

Art: I'd like to see you try it!

Scene 21: Full two-shot. Bob jumps
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Choosing and USING YOUR PROJECTOR

By JAMES A. SHERLOCK

Vice President
Australian Amateur
Cine Society

TO deal fully with this subject a book of no small proportions would be required, but the more important aspects of cine projection are examined in this series of articles.

The difficulties which beset the designer of a cine projector are many, not the least being the price which we, as buyers, are prepared to pay. For this reason manufacturers are compelled to delete refinements from some models that they may be sold at a price their customers are willing to pay.

When comparing projectors there are many points to observe, some of which are:

1. The quality of projection and steadiness of screened picture.
2. Simplicity and quietness of operation.
3. Finish, durability and rigidity of framework and mechanism.
4. The optical system.
5. The efficiency of service available locally.
6. Selection of various lamps, shutter-speeds and lenses for use in different sized rooms.
7. Power rewind.
8. Oiling system.
9. Variable projection - speeds (e.g. sound and silent).
10. Decutching movement for showing stills.
11. Reverse movement.
12. Controlled voltage.
13. Ammeter.
14. Pilot light.
15. Largest reel of film which can be projected.
16. Belt or gear transmission.
17. Sound projectors should be free from sound distortion.
18. Protection of film from mutilation.

Optical Systems

There are two different designs used for optical systems of cine projectors — (1) that using "direct lighting," where the reflector, lamp, condenser, shutter, film and lens are in perfect alignment, and (2) that which uses "reflected light" from a lamp placed at right angles to the path of the film. In the latter case a mirror or prism is used to change the path of the beam of light. This method unfortunately causes a light-loss of approximately 10%. Medium-priced projectors are so designed,

and have merits which are liable to be over-looked.

For example, projection lamps generate a good deal of heat, and machines designed with the lamphouse on the opposite side of the framework to that used by the path of the film do not heat the projection gate and the film to such an extent as those machines using direct illumination. This is an advantage when the machine is being constantly used by lecturers for still-picture projection. Another point in favor of these projectors is that they can be designed in a more convenient size, with both the feeder and take-up reels away from the heat of the lamphouse, and the reel-spindles placed in a position which gives the projector a very low center of gravity.

Lamps

The majority of cine projection lamps are of the close filament gas-filled type. The bases of lamps for Kodascopes and several other projectors are of the bayonet type, which locks the lamp with the filament in its correct position. Bell and Howell projectors use a special custom-built socket, acting on a similar principle.

A projection lamp emits a blinding light radiating in all directions, and the projection designer's problem is to direct as much of this light as possible through the narrow opening of the projector gate where the film lies. When it is mentioned that the size of the 16mm. projector gate is only approximately $9\frac{1}{2}$ mm. by $7\frac{1}{4}$ mm. it will be realized that if a path of light is to be condensed into this small space, only a small part of the total light radiated from the projection lamp is used. The greater portion of the light from the filament is wasted in and around the lamphouse.

Lamp Wattage

Designers of projectors — especially those made in Europe — aim to keep the voltage of projection lamps as low as is practical, because increased lamp voltage necessitates increased size of the lamp filament.

For example: A projection lamp of 250 watts working on 50 volts has a filament approximately half the length of one of the same wattage working on 100 volts. Because of this fact the 50-volt lamp produces a more concentrated light and

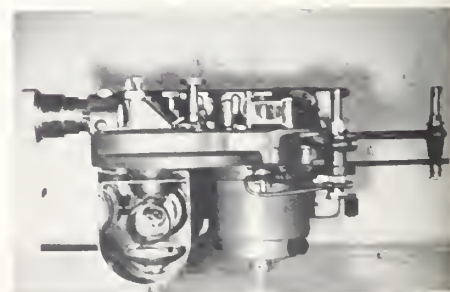
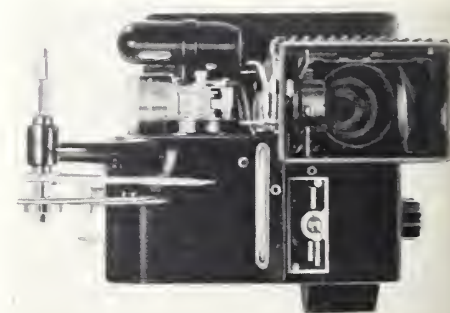
therefore shows a remarkably bright picture.

In fact it is not uncommon to find a projector fitted with a lamp of 250 watts, working on 50 volts, producing a more brilliant picture than a projector fitted with a lamp of 750 watts, working on 110 volts. When a projector and lamp have been wired for, say, 110 volts and are being used on a local main of 240 volts it is necessary to use a resistance or transformer, either of which reduces the surplus current. This problem is seldom encountered in the U.S.A., where 110-volt current is almost universally available, but it is a serious consideration in other parts of the world.

Lamp Life

The life of projection lamps is much less than those used for ordinary lighting, and the higher the intensity of a projection lamp the less is its life; e.g., lamps below 100 watts last for 100 hours, while lamps rated at 500 watts or over last approximately 25 hours. If a projection lamp is overloaded (volts) by only 10%, its light is bluer and its life shortened. This is the principle by which the new "10-hour" lamps gain their added power. If it is under-run by 10%, it lasts longer than its normal life but tends to produce a yellow light. Sudden surges in current voltage which occur in some local mains are detrimental to the life of these lamps, and some manufacturers insert an ammeter in the circuit of their projectors which indicates the rate of flow of the current. This is a refinement which might easily be added to more machines.

The most common time for any filament lamp to collapse is the moment it is switched on; for this reason some projectors are fitted with a rheostat to pro-



Projector optical systems. Above, "direct illumination" (Kodascope Model G); below, "indirect lighting" (a popular-price Bolex model, not marketed in U.S.A.).

tect the filament, and the light cannot be switched on unless the lamp is receiving only a small fraction of the current. After the lamp is lighted the rheostat is turned on full. This refinement could well be adopted by more manufacturers, as it lengthens the life of a lamp.

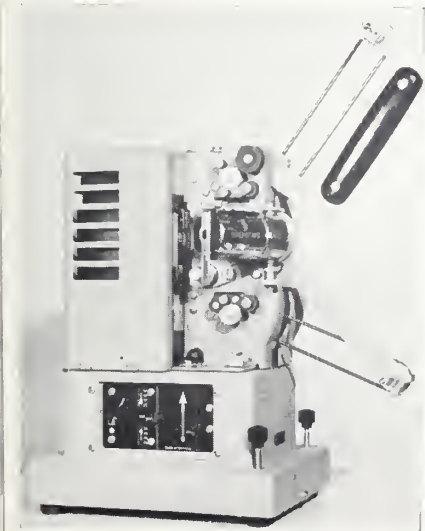
From Lamp to Screen

At the back of the lamp is a concave reflector, so placed to reflect the filament of a lamp in an almost solid "wall" of light to the condenser lens. The condenser lens collects this light from as wide an angle as possible and images the filament and its reflected image through the gate, so that the beam comes to a focus point as a cone of light at or near the point where it enters the projection lens. By this means the light evenly illuminates the picture before it is thrown into the lens.

Lamp adjustment, whereby the individual coil location in the filament can be correctly centered in the reflector, is in some cases made possible by shifting the lamp socket holder, or in other cases, as with the Bell & Howell projectors, the concave mirror is adjustable. Either method requires the removal of the projection lens and the film. Adjustments are made until it is possible to see a clear outline of the filaments of the lamp on a screen. The best conditions result when the filaments appear sharp and clear.

The following table shows the effect of underloading and overloading a lamp of 110 volts rated for 50 hours of normal use:

Between the condenser and lens is placed a shutter to mask the intermittent movement of the film as it changes from each individual frame to the next frame. To avoid the appearance of flicker as moving pictures are being screened to an audience, films should be projected with such rapidity that the sensation produced by one frame or picture remains on the retina until the next frame appears. This is known as "persistence of vision." It has been found that the eye

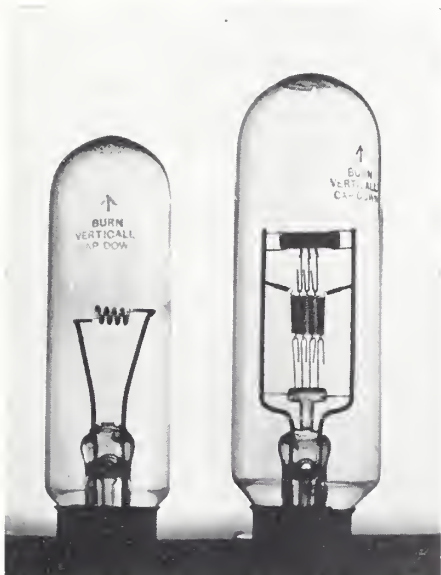


Belt-driven take-up (Siemens, Germany).

	Transmits Volts	(Life approximate) light	hours
Lamp underloaded by.....	9	75%	153
Lamp underloaded by	7	80%	118
Lamp underloaded by	5	85%	82
Lamp underloaded by	3	91%	71
Lamp underloaded by	1	97%	56
Lamps with normal rating of.....	110	100%	50
Lamp overloaded by	1	103%	45
Lamp overloaded by	3	109%	35
Lamp overloaded by	5	116%	28
Lamp overloaded by	10	134%	16

is not aware of any interruption between moving pictures when the number of alternations is 48 per second. The running speed of silent film is 16 frames per second, therefore each single frame should be uncovered and covered three times before the next frame appears.

That is the reason why three-bladed shutters are popular with some manu-



Note more concentrated filament of 50-volt, 250-watt lamp on left as compared to that of 115-volt lamp of same wattage, right.

facturers of projectors. Other manufacturers supply a single-bladed shutter geared to revolve three times before each frame when silent pictures are being projected at a speed of 16 frames per second, and twice only when sound pictures are shown.

Sometimes two-bladed shutters are synchronized to move past the film three times per frame. They can be used when silent films are being screened at their normal speed to uncover and cover each frame of the film twice only, thereby increasing the light-output of the projector. This, of course, produces flicker which can be noticed by people seated close to the screen, but the flicker is not as pronounced beyond 30 feet from the screen.

The main use for two-bladed shutters, or single-bladed shutters which uncover and cover each single frame but once, is in sound film, which is projected at the rate of 24 frames per second. As previously mentioned, the eye is unable to

detect flicker when the number of alternations is 48 per second, therefore a shutter passing each frame of a sound film only twice is sufficient to prevent the appearance of flicker. This two-bladed shutter system has a great advantage over the three-bladed system for long throws of silent films in that it permits 33⅓% more light to pass through the film.

A very interesting shutter design is in the tri-film sound-and-silent Bolex, which is fitted with a convertible shutter which for normal use may be used as an extremely flicker-free four-bladed shutter, and where an extremely large picture is desired, converted to a two-bladed shutter, permitting a considerable increase in screen brightness.

To protect the film from heat as much as possible, most modern projectors have the shutter placed between the film-gate and the lamphouse.

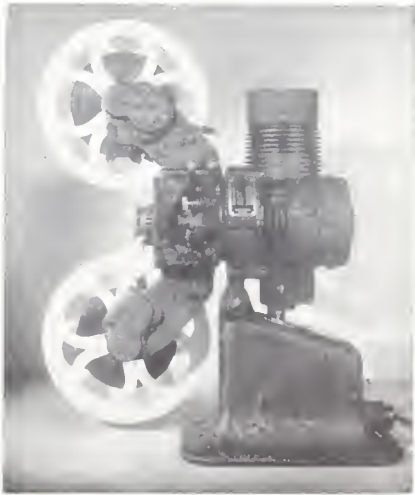
Intermittent Mechanism

The most popular type of mechanism used for intermittent frame changing is the cam-and-claw movement. By this system either one or two claws engage the perforations by penetrating them. The film is quickly and accurately pulled down one picture-space while the shutter covers the light. The claws then disengage and return by a cam movement to repeat the action.

Two other intermittent movements are sometimes used on projectors:

1. The "beater-and-rocker" movement, whereby the film is pulled downward past the aperture, one frame at a

(Continued on Page 91)



Gear-driven take-up (Bell & Howell, U.S.A.).

AMONG THE MOVIE CLUBS

CALLING CLUB SECRETARIES!

This department of THE AMERICAN CINEMATOGRAPHER is your department. We feel that there is a great deal to be gained all around by making these reports of club activities available to other clubs and to independent cine-filmmers all over the country. To that end, we ask all you club secretaries to consider yourselves special reporters for THE AMERICAN CINEMATOGRAPHER with the assignment to "cover" the activities and meetings of your club. Send us those reports as quickly as possible after the event has happened—and make your report accurate and prompt. Wherever possible, we'd appreciate getting reports of meetings that have actually happened, rather than of those that are scheduled to happen in the future, so that none of us will be embarrassed by reading that something is going to happen at such-and-such a meeting, only to find later that some switch in schedule made the actual meeting very different. And please—remember that February is a short month, and printers and editors wait for no man—so get your reports in for the next issue by not later than February 20th.

The Editor.

St. Paul Studies Lighting, Color

Scheduled highlights for the January meeting of the St. Paul Amateur Movie Makers Club included a demonstration of interior lighting by Robert Green of the Wonderlite Co., and a preview of the Great Northern Railway's 1941 Kodachrome sound-films of Glacier National Park, made by Honorary Member William S. Yale, the Great Northern's Chief Cinematographer. Also on the program was a film made by lady member Dona Miller on her trip to South America.

"The Reel Stuff," the Club's lively bulletin, announced the purchase of the second piece of Club-owned equipment—a Da-Lite screen. The bulletin further stated that the screen was acquired in a trade for the Club's Beshee titler—yet the Club still had the titler. Yes, we'd like to know the answer, too!

Tri-City Sees Movie Errors

The Tri-City Cinema Club uniting the moviemakers of Davenport, Iowa, and Rock Island and Moline, Illinois, highlighted its January meeting with the projection of two films on "Common Movie Errors." One was a 50-foot 8mm. black-and-white reel, filmed by mem-



Frame enlargement from special Kodachrome title-leader made and presented to members of the Tri-City Cinema Club (Rock Island and Moline, Ill., Davenport, Ia.) by President Dr. Albert Mueller.

ber Tom Griberg of Moline, which dealt with such faults as underexposure, overexposure, poor focus, poor framing, tilted horizons, inverted camera, finger before lens, camera-jiggle, fast pans, "garden-hose technique," shooting from moving car, short scenes, walking with camera, subject staring at camera, and no motion. The other was the well-known 400-foot 16mm. reel produced by the Harmon Foundation, of New York.

As a reward for enduring this concentrated blitzkrieg of movie horrors, the program finished with a 1200-foot 16mm. Kodachrome film, "America's Northern Wonderlands," the filmic record of an Alaskan Cruise filmed by member Birger Swenson.

A note relative to the Club's December meeting, received too late for publication last month, revealed that President Dr. Albert Mueller established a precedent by making special Club film-leaders in 16mm. and 8mm. Kodachrome and presenting them to all members present.

New Governors for L. A. 8mm.

At the January meeting of the Los Angeles 8mm. Club two vacancies on the Board of Governors were filled with the election of Past-President Dr. F. Robert Loscher and John E. Walter. Several notable guests were present, among them Mr. and Mrs. Fred Ells, internationally famed cineamateurs, late of Yokohama; William Hight and Jacques Shandler, President and Secretary of the Los Angeles Cinema Club, and Jack O'Brien, of Alhambra's La Casa Movie Club.

Screen features included showing of a film sent by ex-president Bill Wade,

lately transferred to Denver, and prize films from the Club's 1940 Contest, including "Compounding A Prescription," by B. M. Bevans; "Penitence," by A. B. Callow; "Pedro's Bath," by Prexy A. J. Zeman; "Downfall of Daughter," by Charles Moore; "Trip to Catalina," by Foster K. Sampson; "Desert Scenes," by Irwin Dietze; "Blasto," by Paul Cramer; "Reaping the Raindrops," by L. B. Reed; "Seeing Southern California," by John Elliott; "Riddle of Sawtooth Ridge," by Leo Caloia; and "Two Modern Topsies," a sound-synchronized Kodachrome minstrel-show by Adolf Apel.

Cleveland Elects

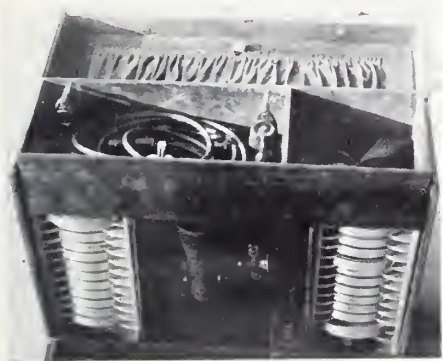
New officers have been elected to the board of Cleveland Amateur Cinematographers for the year 1941, and these were ceremoniously inducted into office at the club's annual banquet at Fischer-Rohr's Steak House on the evening of January 8th. With the advent of the fourth year of the group the new President, Willard J. DeWitt, announced a well-organized program of activities for the club, which will include four contests. The first of these is already in progress. It is called a "good shots contest" and entries will be comprised of an assemblage of outstanding shots taken recently by the members. Prize awards will be given based on exposure, composition, pictorial interest, and general cinematic technique.

Other new officers, in addition to President DeWitt, are J. J. Worz, Secretary, J. Leroy Collins and Charles Ciasca, Vice Pres. and John Chodera, Treas.

The retiring President, Dick Batchel-

(Continued on Page 91)

THE IDEA EXCHANGE



Projector and Film Case

Anyone who travels extensively, as I do, will surely have had plenty of experience with the inconveniences of trying to keep the cases carrying your 16mm. or 8mm. projector and your completed films together so that even on shipboard or in a strange town you can put on a show for your friends at a moment's notice. After having my quota of trouble with this problem, and exhausting my vocabulary on porters, stewards and baggage-men who insisted on putting one case or the other where I couldn't find it, I solved my problem by having a special case built to carry projector, films, and everything else needed for an evening's film-showing except the screen, which of course has its own case.

The case was built around my Filmo model JS 16mm. projector and the 400-foot cans holding my films. It is about the size and shape of a small suitcase, which, when closed, it resembles. Both the top and one entire side are hinged to swing fully open, so the projector and film can be gotten out easily. The lower part of the case's interior is divided into three sections by vertical partitions. The center-section holds the projector, and is shaped to hold it firmly in place. The two side sections accommodate special, removable shelf-boxes, each of which holds twelve 400-ft. reels, any one of which can be removed from its compartment without disturbing the other reels. A removable tray at the top of the case has compartments which accommodate the projector-cable, rewinds, splicer and (dismounted) the magnifying unit of a Filmo viewer. The projector and film can be removed from their places without having to lift this tray out of the way.

I had the outside of my case covered with heavy leather, and the inside lined with plush or velvet, like any fine camera-case. The necessary clasps, a handle and a "Sesamee" combination-lock were fitted. Any trunkmaker can easily build a case like this to fit any projector—and believe me, it's a great advantage to be able to carry your projector, splicer, screen and 24 reels of film in two small cases!

TOM FAY.

THE IDEA EXCHANGE is just what the name implies—the place where 16mm. and 8mm. cinefilmmers can swap moviemaking ideas with the other fellow. The little improvised tricks you used to solve one of your cinemaking problems may be just the answer to something that's perplexing a fellow filmer—and one of his ideas may solve a problem for you.

To help out this exchange, THE AMERICAN CINEMATOPHOTOGRAPHER invites you to send in descriptions of gadgets, tricks, shortcuts and methods you have used in any phase of home movie work—shooting, editing, titling, projecting, processing, and the like. If possible, send along a photograph or sketch to help make your description more clear to the other fellow. For every idea published in THE IDEA EXCHANGE, we'll give you two projection-reels and cans. Really unusual ideas will receive higher awards. When sending in your idea, let us know whether you shoot 8mm. or 16mm. to facilitate sending you the right equipment.



Duplex Camera-mount

Frequently I like to have my Leica on hand to shoot still pictures along with my movies. To make this easier, I had a special bracket put on top of my 16mm. Bolex camera as a permanent fitting. The bottom of this is curved to fit the top of the cine-camera. The top is flat, to make a firm base for whatever other camera I may want to mount there. At one side, so it can be operated easily, is a standard tripod-screw, by which the upper camera is screwed onto the mount.

This way I can "double up" in my filming in almost any way I like. I can mount the Leica atop the Bolex, and

shoot stills as I go; or—since I shoot both 16mm. and 8mm. movies—I can very handily mount my little Filmo 8 above the bigger Bolex, and it's an easy matter to shoot 16mm. and 8mm. versions of the same picture at the same time. However—here's a tip: if you aim things through the finder of the lower camera, always be sure that camera has the narrowest lens-angle, so the parallax between the upper and lower positions won't throw your upper-camera shot off!

GAETANO FAILLACE.



Gadget and Lens Carriers

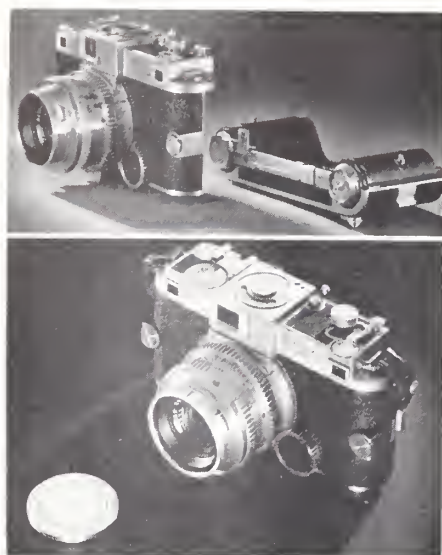
If you use fading-gadgets, extra lenses, and so on with your camera, you probably have had the same troubles I did with missing shots while I hurriedly went back to my camera-case to get out the lens, fader, or whatever I wanted—to say nothing of those unprintable moments when you look in the case and discover you've left your pet telephoto at home!

After that sort of thing had happened to me once too often, I decided I would take care of that problem once and for all. Luckily, just at that time I was having a special duralumin tripod built up for me, so I just had the shop do a few more little jobs with the metal—and there I was. The result is shown in the photo.

By means of an angle-bracket which fits between the tripod and the "Trueball" pan-and-tilt head, I suspended a little duralumin box at one side of the tripod. This is divided into two compartments. One of them is made to carry my "Bools" fading-device. The other holds the loose-leaf pocket notebook. I carry for recording scene data, information for titles, and the like. (After using this gadget, I can suggest that anyone who wishes to follow my example might do well to make this compartment a little bigger, so you can carry a pencil in the

(Continued on Page 90)

...THE SHOWCASE...



Magazine Minicam

The world's first magazine-type 35mm. miniature camera is announced this month by the Eastman Kodak Co., under the name Kodak Ektra. Standard 35mm. minicam rolls or film-cartridges are loaded into the special magazine back which may at any time be removed from the camera as a complete, light-tight unit, making it possible to interchange rapidly from black-and-white to Kodachrome or any other type of film without spoiling or wasting an inch of film. Other features of the Ektra include a choice of 6 interchangeable Kodak Ektar surface-coated lenses ranging from 35mm. to 153mm. in focal length; interlocked, long-base rangefinder; focal-plane shutter with speeds from 1 second to 1/1000; variable-power viewfinder which sets by a simple dial for lenses of focal lengths from 50mm. to 254mm., corrects automatically for parallax, and adjusts to suit individual vision; and an unusually convenient arrangement of all operating controls, scales, etc.

Basically, the new Kodak Ektra consists of three units—the camera-body, the specially-mounted Ektar lenses, and the magazine back. The camera-body houses the focal-plane shutter mechanism, viewfinder, range-finder, exposure-counter dial, and all other major operating controls except the film advance and rewind. Recesses at either end of the camera-body accommodate the spool-chambers of the magazine back, so that when back and body are placed together they combine into a single trim, neatly-designed unit with rounded ends that comfortably fit the user's hands.

Each magazine back has a manually-set exposure-count dial; an indicator to tell what kind of film is in the magazine; the mechanism for moving the film; a visual indicator to check on film move-

ment; and a metal slide which automatically covers the film opening as the back is unlocked from the camera-body. Each magazine back is as precisely constructed as the camera itself, and is individually fitted to the particular Kodak Ektra with which it is to be used. Hence when Ektra owners wish to equip themselves with additional magazine backs, their cameras should be sent to an Eastman branch or to the factory at Rochester for the necessary precise fitting of each back. Once a magazine back has been fitted, it can be interchanged at will with all other backs fitted to the same camera. The charge for thus fitting the back to the camera is included in the price of the back.

The Kodak Ektar lenses provided for use with the new Ektar are surface-treated by a process which increases both the light-transmitting power and the definition of the lens. This treatment, similar to that in extensive use on the lenses of major-studio movie cameras, affords superior contrast in black-and-white negatives, greater color purity in Kodachrome pictures, and lessened flare when shooting into strong lights.

Operating refinements include the parallax-correcting finder already mentioned; a red dot on the camera-body to mark the exact focal plane for precise film-to-subject measurements in extremely close work; a direct-reading depth-of-field scale on the lenses, together with a red dot on the focusing scale to serve as a supplementary focusing index when using infra-red film; and a positive lock on the shutter-release to prevent accidental exposures.

A neat brown cowhide combination case is available for the Kodak Ektra, to accommodate the camera with lens, an extra magazine back, two film cartons and several filters. All Wratten filters, Kodachrome filters and Pola-Screens are available for use with the Ektra-Ektar combinations. Prices on the new camera range, according to lens equipment, from \$235 to \$325, with individually-fitted magazine backs priced at \$55.

Quick Shift "Zoom Attachment" for Filmo Turret 8

Said to permit the owner to approximate many professional Hollywood trick shots, the new Quick Shift Zoom Attachment, now available for the Filmo Turret 8, makes possible a quick shift from one lens to another—ideal for changes from long range shots to close-ups—without stopping or moving the camera.

The effect on the camera is said to be very unusual. At the end of a shot filmed with a 12½mm. lens, for example, the



whole scene suddenly drops from the screen, while another scene, perhaps shot with a 1½-inch lens, slips down onto the screen from above, showing a close-up of the most interesting subject of the preceding scene—all filmed while the action is still taking place. Thus the action of the Hollywood "dolly" or the zoom lens is approximated.

Further flexibility is claimed by Bell & Howell for this Zoom Attachment in that wipe-ons and wipe-offs may be effected. Moving the lens out of position at the end of a scene creates a wipe-off, while returning the lens to the original photographing position creates a wipe-on. A handle is provided, for moving the turret evenly and steadily, and a gentle positive stop locates the lens exactly at the camera aperture.

This new Quick Shift Zoom Attachment is priced at \$13.50 when ordered as original equipment. Installed on the owner's camera now in the field, the price is \$16.50. The attachment must be installed at the Bell & Howell factory in Chicago.

G-E Meter Tips

A cleverly-designed leaflet showing the three methods of using the General Electric exposure-meter under conditions of bright, medium and dim light—including the incident-light reading method—has been issued by G-E. It is available free through G-E dealers and branches, or from the factory at Schenectady, N. Y. In writing the factory for a copy, it's safest to specify leaflet No. GED-678B.

Correction

Describing the new Movie-Mite 16mm. sound projector in this department, we made the statement that the light-source was a 50-cp. automobile-type bulb. This, (Continued on Page 86)

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DIRECTOR OF PHOTOGRAPHY

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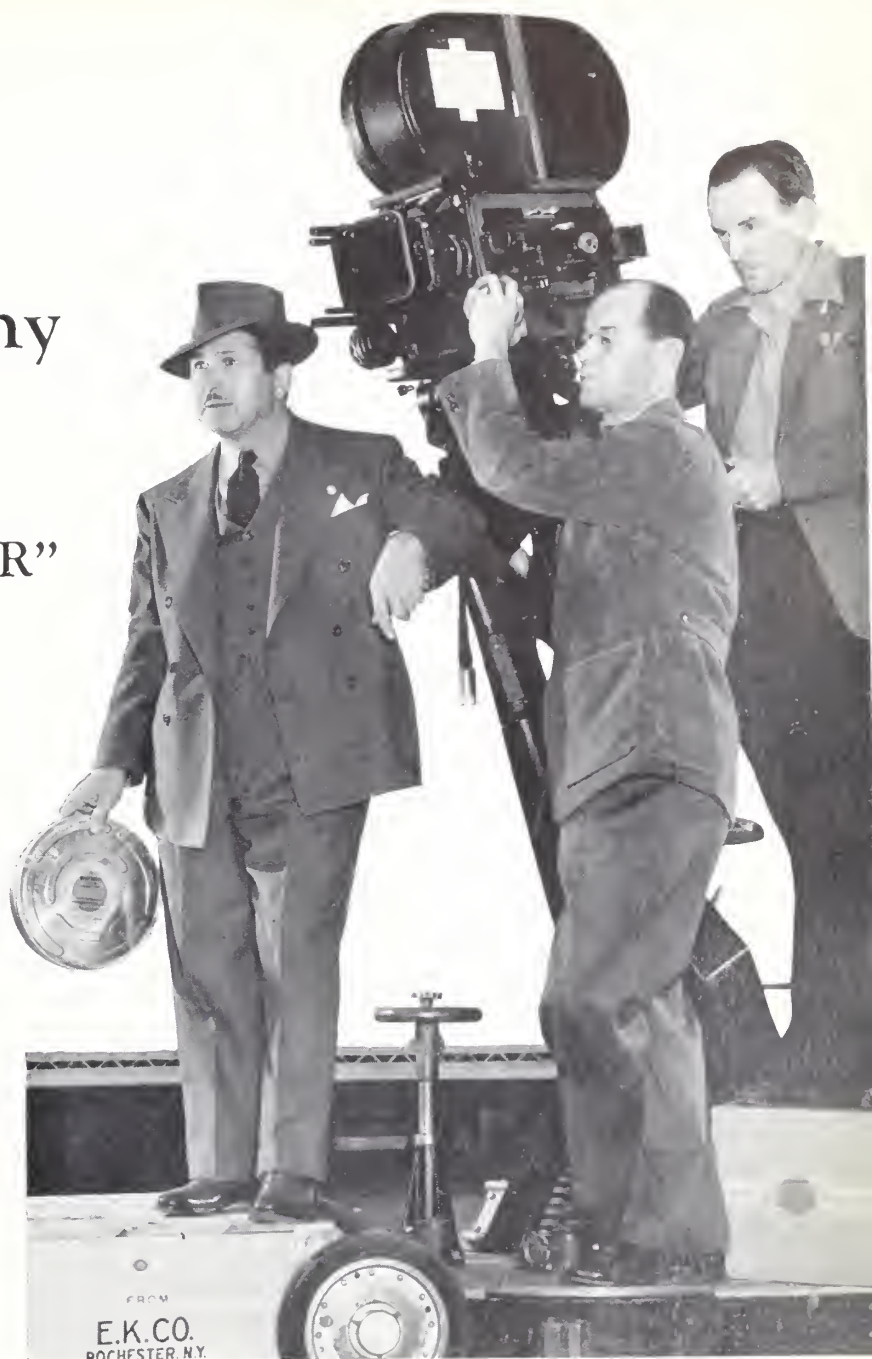
OPERATIVE CAMERAMAN

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FRED W. GAGE

SUPERINTENDENT



"Citizen Kane"

(Continued from Page 55)

jectives conventionally used have tremendous depth of field when stopped down to such apertures. Wide-angle lenses such as the 35mm., 28mm. and 24mm. objectives, when stopped down to f:11 or f:16 become to all intents and purposes universal-focus lenses.

But we needed every bit of depth we could possibly obtain. Some of the larger sets extended the full length of two stages at the RKO-Pathe Studio, and necessitated holding an acceptably sharp focus over a depth of nearly 200 feet. In other shots, the composition might include two people talking in the immediate foreground—say two or three feet from the lens—and framing between them equally important action taking place in the background of the set, thirty or forty feet away. Yet both the people in the immediate foreground and the action in the distance had to be kept sharp!

In still other shots, Welles' technique of visual simplification might combine what would conventionally be made as two separate shots—a close-up and an insert—in a single, non-dollying shot. One such, for instance, was a big-head close-up of a player reading the inscription on a loving-cup. Ordinarily, such a scene would be shown by intercutting the close-up of the man reading the inscription with an insert of the inscription itself, thereafter cutting back again to the close-up. As we shot it, the whole thing was compressed into a single composition. The man's head filled one side of the frame; the loving-cup, the other. In this instance, the head was less 16 inches from the camera, while the cup was necessarily at arm's length—a distance of several feet. Yet we were able to keep the man's face fully defined, while at the same time the loving-cup was in such sharp focus that the audience was able to read the inscription from it. Also, beyond this foreground were a group of men from 12 to 18 feet focal distance. These men were equally sharp.

This unorthodox technique, as might be expected, brought with it a completely new set of photographic and lighting problems. Solving them taught us a lot. For example, there is the matter of setting focus on scenes like these, where it is necessary to spread the depth of field over an incredibly great area. Any experienced cinematographer or still photographer will automatically reply, "That's easy—just split your focus between the nearest and farthest points you want to keep in focus!" Yes—that's the answer—but just *where* should you focus your lens in order to do this?

This is something only practical experience can answer consistently, for while the depth of field of all lenses falls off more sharply in front of the point of focus than behind it, this effect varies not only according to the focal length of the lens used, but according to the degree to which it is stopped down and the point upon which it is focused. Gain-

ing this experience, one certainly learns surprising things about the behavior of lenses. For example, I discovered that a 24mm. lens, stopped down to f:8 or less, becomes almost literally a universal-focus objective at a certain point. If it is set to focus on a point 4 feet 6 inches in front of the camera, everything from 18 inches to infinity will be in acceptably sharp focus. There are also some lenses which as they are stopped down, suddenly reveal totally unexpected optical characteristics at certain settings, and quite as inexplicably lose them as they are stopped down further. I have known of instances in which lenses were excellent until they were closed down to, say, f:6.3, but became distinctly inferior at apertures below this point—only to recover their quality again as the diaphragm passed the f:11 or f:16 mark.

Lighting for this combination of ultra-fast film, coated lenses and radically reduced apertures offers its own new problems. One has to learn a completely new system of lighting-balance. The fast film tends to flattened contrasts: but the coated lenses and the reduced apertures both tend to increase contrast. As a result, one must light scenes made in this manner with much less contrast than would be his custom under more normal circumstances.

Again, the precise degree of change depends upon the stop used; but in general, the shadows must be "opened up" with a more general use of filler light, the highlights must be watched, and when optical diffusion is used, diffusers such as the Scheibes, which tend to soften contrasts, are generally preferable. Obviously, too, when you are dealing with film of the extreme sensitivity of Super-XX, you will find that even at reduced apertures, extremely delicate gradations of lighting-contrast pick up, registering far more strongly on the film than they do to even the trained eye. Yet, strangely enough, once a cinematographer has accustomed himself to this type of lighting, it becomes in many ways easier than more conventional lighting, for it is simpler, less artificial, and employs fewer light-sources.

A further innovation in this picture will be seen in the transitions, many of which are lap-dissolves in which the background dissolves from one scene to another a short but measurable interval before the players in the foreground dissolve. This is done quite simply, by having the lighting on set and people rigged through separate dimmers. Then all that is necessary is to commence the dissolve by dimming the background lights, effectually fading out on it, and then dimming the lights on the people, to produce the fade on them. The fade-in is made the same way, fading in the lighting on the set first, and then the lighting on the players.

In closing, I would like to pay high tribute to those who were associated in the making of "Citizen Kane." Producer-director Orson Welles, of course, heads the list; he is not only a very brilliant young man, but also one of the most de-

lightfully understanding and cooperative producers and directors with whom I have ever worked. Art director Perry Ferguson is another whose ability helped make "Citizen Kane" an unusual production. His camera-wise designing of the settings not only made it possible to obtain many of the effects Welles and I sought, but also made possible the truly remarkable achievement of building the production's 110 sets, large and small, for a total expenditure of about \$60,000—yet gave us sets which look on the screen like a much larger expenditure. RKO special-effects expert Vernon Walker, A.S.C., and his staff handled their part of the production—a by no means inconsiderable assignment—with ability and fine understanding. Finally, the operative crew who have been with me for so many years—Operative Cinematographer Bert Shipham, and Assistant Cameraman Eddie Garvin—played their accustomed parts in helping me to put Orson Welles' initial production on the screen. Experimenting as we were with new ideas and new methods, none of them had an easy time. But thanks to the spirit of understanding and co-operation which prevailed, we emerged with what I think will prove a notable picture, and, I hope, the starting-point of some new ideas in both the technique and the art of cinematography. END.

Fantasound

(Continued from Page 59)

cut completely from the downstage speakers and reproduced at a higher level by only the auditorium speakers at the side, rear, or top of the house, making it possible to make the sound apparently come from any desired part of the auditorium. In the closing selection of "Fantasia," this technique is employed. The selection is "Ave Maria." The orchestra is played on the downstage speakers as is the vocal choir. When the solo voice enters, it is first played only on the rear speakers, then faded to the ceiling speakers, and finally to the downstage speakers on one side only. The effect is that the voice begins at the rear of the auditorium, floats gradually across the top of the house, and finally comes to rest at the front side of the stage. The dramatic possibilities this new equipment and technique makes possible will be obvious.

It will be observed that the present "Fantasound" system makes use of as many standard commercial units as possible. At present, RCA is understood to be building ten sets of "Fantasound" reproducers, which will be utilized in special travelling presentations of "Fantasia." It is not at present intended to release this production generally at any time, but instead to make it a perpetual special show, producing a new version every year. Meantime, it is planned also that the fourth Disney feature, "Bambi," will also be produced in "Fantasound."

What will be the future of "Fantasound" is as yet undecided. That it pro-

"TEN BEST" ALL ON EASTMAN FILM

EVERY one of the Ten Best Pictures, selected in the *Film Daily's* critics poll for 1940, was made on Eastman Negative Films. This impressive record speaks for itself. In 1941, these exceptional films will continue to contribute to the success of outstanding screen productions. Eastman Kodak Company, Rochester, N.Y.

J. E. BRULATOUR, INC., *Distributors*

Fort Lee

Chicago

Hollywood

PLUS-X

for general studio use

SUPER-XX

when little light is available

BACKGROUND-X

for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS

vides radically improved sound reproduction is conceded by all who have had an opportunity of hearing it. Whether or not the industry will eventually make the incredibly costly change-over to "Fantasound" or some similar system cannot as yet be foretold. The first "Fantasound" installation, built bit by bit by the Disney engineers as they worked out the technical problems involved, is understood to have cost in the neighborhood of \$200,000; the present installations are, it is understood, being built for a cost of approximately \$30,000 apiece. Built in quantity sufficient to re-equip even this country's theatres, it would seem possible that the cost might be even further diminished. It is also not by any means impossible that as the new system becomes more familiar to a wider range of engineers, the idea may well be caught up and modified to a point where it will continue to produce comparable effects with considerably less special equipment, and become workable in the theatres on a basis more closely approximating present conditions. At any rate, "Fantasound" offers the industry so many new and worthwhile technical and artistic concepts that it seems sure to become the parent of yet other developments which should advance not only Disney's sound, but that of the whole industry. **END.**

Réné Clair

(Continued from Page 60)

this knowledge of cutting helps in planning and using the sets. All too often, they are over-dressed; they contain so much 'realistic' detail that the audience's attention is attracted from the story-action.

"To my mind, sets and their dressing should be held as simple as possible. There should be only such furniture as must be actually used in the scenes. For instance, when we started 'Flame of New Orleans,' art-director Jack Otterson gave some lovely sets. When I saw the designs, and later the finished sets, I was delighted. But later, when they brought the set-dressings and furniture in, I felt something was wrong. The dark furniture and patterned upholstery looked wrong against the classic simplicity of Otterson's well-designed monochromatic sets.

"So I had them remove all the furniture except those pieces actually to figure in the action of the picture. One large set, for example, contains only a mirror, a chair, a table and a grandfather's clock, all of them specially refinished in the same color as the set-walls, but a slightly darker tonal value. I even had them take out the carpeting and replace it with a hardwood-finish flooring.

"In reality, that set looks bare. But on the screen, it won't. Between the action of the players, Otterson's artistic set-design, and the skill of my old friend Rudy Maté, A.S.C., who is directing the photography, I'm confident that no one in any audience will notice the scarcity

of furniture. On the contrary, the set will seem a normal—and attractive—room.

"In this, we are taking advantage of the selectiveness of the camera. Rudy and I will see to it that as we make each scene, there is enough in it to provide a convincing background for the action. And by eliminating surplus furnishings, we'll keep that background from stealing the scene from the players.

"As a matter of fact, we're merely doing beforehand something that all directors of photography do instinctively when they are shooting. How often haven't you seen an ace cameraman, as he squinted through his camera, call the stage crew and have them move this piece of furniture or that one out of the scene? He is simply eliminating surplus details which have no pictorial or dramatic reason for being in the scene, and which clutter up his composition. Working as we are, we are simply eliminating these things before Rudy has to hold up production asking the crew to do it later.

"For that matter, I think the furnishing of sets is something that deserves more attention than any of us give it. Because a chair or a davenport is in itself an attractive piece of furniture is no indication that it will be satisfactory on a set as a background for given action. Sometimes the finish of the wood-work is too dark, so it stands starkly out in front of the lighter-toned walls. Sometimes a prominent pattern in upholstery can clash violently with the lighting, or even with a woman player's costume.

"Such little details make the work of both the director and the cinematographer unnecessarily harder, and detract from the final dramatic value of your picture on the screen. And this isn't a failing common to Hollywood alone! I remember how in one picture I made in France we sweated over just the same problem. The furniture was too real-looking against the background of the set, and we were trying to maintain a slightly fanciful mood. We finally solved the problem by placing a big net scrim between the actors and the set and furniture behind them. And how that made the cinematographer work, getting the lighting he wanted without making the scrim stand out like a sore thumb! He did it—but it would have been much better for all of us if the furniture had been right from the start.

"In closing, let me say it is a great pleasure being over here and being able to work with Hollywood's great cinematographers. You have no idea how closely we in Europe followed the work of America's cameramen. As soon as any American film opened in Paris, we of the film colony would attend to study and admire the work of Hollywood's cinematographers. Really, I feel I know the work and styles of the various members of the A.S.C. as well as if I had been here among them for years. It is, I assure you, a pleasure to know I am likely to meet and work with these fine artists whose work I have so long admired."

END.

Multiplex Lamp

(Continued from Page 61)

the placing of set lights. Since the lights on the camera are so effective, they will take care of variations of general lighting that otherwise would have to be adjusted with great care, by parading stars or at least their stand-ins, over the ground to be covered.

And finally, it must be obvious that no lighting system serving this particular purpose could be so economical.

Wherever the camera points, there the light swings automatically, covering little more spread than that of the lens angle. If you're out to save on juice, there is just one more little item I can point out in favor of my pet light.

I don't suppose it can be called a revolutionary innovation, but it is an improvement on past efforts in this direction. An improvement so practical that it makes my tasks and problems ever so much easier.

Editor's Finder

(Continued from Page 62)

Australia, Holland, Switzerland, Japan, India and Sweden—all send one or more photographic and cinematographic publications, both professional and amateur, across this desk. The world may be at its neighbor's throats, but picture-making must go on!

And perhaps the most hopeful sign of all is the fact that in all of these publications—even those from the warring countries—seldom, if ever, are the hatreds and political slogans motivating the war and its hatreds mentioned directly or indirectly.

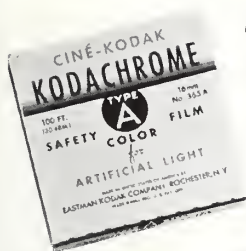
None of us can foretell what may come out of this war. None of us can say with any degree of accuracy which way of life may emerge triumphant—even though we may have our personal opinions and hopes. But whatever emerges from today's world-wide horror, we can look confidently to the spirit of comradeship and universal camera-fellowship which inspires the writers, publishers and readers of these magazines today, to play a vital part in restoring the spirit of universal understanding and fellowship upon which, once peace is restored, we must all strive to build a new and happier world.

Talkies in the Gay 90's

Amateurs today have experimented with making talkies to be shown accompanied by phonograph records but with no mechanical or electrical connection between sound and picture mechanisms. It's not such a new idea. In France in 1897 the singer Paulus engaged the pioneer French cinematographer-producer Melies to make films of him, to be shown to the accompaniment of the singer's records. Visitors to the Paris exposition of 1900 could also see and hear a variety of programmes of this type, ranging from grand opera to vaudeville.

For color indoors,

Kodachrome Type A, color-balanced for use by Photoflood light. Fast enough for use with a few well-reflected lamps. Comes in 100- and 50-foot rolls at \$8 and \$4.30, and in 50-foot magazines at \$4.65.



For color outdoors,

regular Kodachrome, the brilliant, full-color film that has given home movies a totally new importance. Its price, of course, includes processing and return within this country. Regular and Type A are priced alike.



REMEMBER ALL FIVE...

Of course, you probably have your favorite Ciné-Kodak Film. That's natural. But don't forget that, among 16 mm. Ciné-Kodak Films, there are four others, all of them with specific qualities that make them valuable. Here are all five:

High speed

is, of course, the outstanding quality of Super-XX. Use it indoors by artificial light or outdoors when the light is poor. In 100- and 50-foot rolls at \$6.75 and \$3.75; in 50-foot magazines at \$4.



Beauty in black-and-white.

That's what Super-X offers, and offers so consistently that it has become the favorite of many who really know their movies. In 100- and 50-foot rolls at \$6 and \$3.25; in 50-foot magazines at \$3.50.



For utility

there's Safety Pan, which figures little in the news, but that's because it's modest. When you don't need the special capacities of any of the other four, try Safety Pan. In 100-foot rolls only, at \$4.50.



NOTE. For 8-mm. film users, there are four Ciné-Kodak Films: both types of Kodachrome, Super-X (for speed), and "Pan" (in 25-foot rolls only), all at the economical "Eight" price levels.

EASTMAN KODAK COMPANY, ROCHESTER, N. Y.

Costume Picture

(Continued from Page 69)

for departure the following day on a lecture tour. The result was that we rushed to obtain the costumes and started retakes at approximately 11:00 at night, finishing at dawn.

My Eastman 8mm. camera with an f:2.7 lens is not equipped with a wind-back device or equipment for fades, so montage scenes were accomplished by taking the film out in a darkroom, running it through the camera again, and making a notation of footage. Montage effects were used whenever practicable; to depict the Civil War, to suggest building of the home on the Colorado mining claim, and finally to express mounting wealth and subsequently the collapse of the silver market.

The Civil War was expressed by composite shots of flash-powder explosions in slow motion, filmed over leaping flames, with appropriate written subtitles photographed over all. Building of the home of wood and stone comprised multiple shots of actual construction of a structure being erected on my property at that time.

The rise and fall of the great fortune was expressed by a mounting stack of coins and paper money, which subsequently was filmed toppling over in slow motion, paper money being dropped from the ceiling into an electric fan for an added effect.

Titles were filmed by superimposure also. First the backgrounds showing an old table with a mirror above it; then the characters were made to fade in and out of the mirror as introduced by appropriate titles photographed over all. Scenes of each individual character were made through a small kitchen window which corresponded in size to the mirror. Thus in the finished picture they appeared to actually be seen therein. For such an introduction of Miss Story, depicting her in a rose garden, it was necessary to literally move the garden into the kitchen. We placed a blue placard behind her to resemble the sky, then cut many plants and flowers which were suspended from the ceiling. Through the window it actually appeared to be a rose garden on a sunny day, but from the interior it resembled a horticulturist's experimental laboratory more than anything else!

A picture of this type presented scores of minor details to be eliminated. For instance, of course, no modern vehicles or wiring could be permitted to be seen. Then too, it was necessary to remove wrist watches, brilliant nail polish, and other evidences of modern times. In all interior scenes, no modern fixtures, lamps or furniture could be used. Just try to film a period picture to fully understand the countless items which require attention! It goes without saying that you will appreciate this type of picture more the next time a professional one appears at your neighborhood theatre.

Gliding

(Continued from Page 67)

ments being locked by one wing nut. The bend in the vertical tube, therefore, allowed us to obtain horizontal correction through an arc of some forty degrees. This was more than enough to compensate for the slight deviations from vertical to be found in the short lengths of tubing through which the mount was clamped.

Some means had to be provided to operate the camera, which was at times twenty feet from the pilot. As the spring capacity of the camera-motor was sufficient for about three normal shots, it was necessary to have a release which would both start and stop the camera. We first tried a twenty-foot cable release, but the necessity for taping it down against flapping in the wind resulted in bends which made the device useless. With the help of Carroll T. Driscoll we started working on an electric release and, after a couple of unsuccessful attempts with solenoids, we built the magnetic release shown in the photographs. The core was salvaged from some obscure relay and the coil wound to give a current drain of two amperes at six volts. A section of aluminum channel was fastened to the armature to give a sufficiently long throw without an impractically large air-gap. It might have looked better, but it worked perfectly. We used a six-volt battery of the "hot-shot" type and provided the pilot with a toggle-switch and a signal light operated by a contact on the camera release-button. This gave us a fairly positive means of knowing when the release button was completely pressed, but of course, did not indicate stoppage of the camera due to a run down spring. We were very careful of timing, however, and spoiled only one shot from this cause. The switch and light bulb were mounted on a small clamp for attaching to the lower edge of the instrument panel.

One of the most important considerations in this special equipment was keeping it light. On a plane that weighs only 250 pounds to begin with, lightness is imperative. The camera weighed about eight pounds and the mounting bracket and magnetic release about two and a half pounds more. The camera struts, six and seven feet long, weighed about four pounds each. We were bothered for a while by the great lack of rigidity in our setup. When mounted, the camera could be moved an inch or two by the pressure of one finger, and on take-offs and landings was probably waving through a distance of nearly a foot. (A horrifying sight the first few times—when it is your only camera!) Guy-wires were necessary in some positions, but their tendency to vibrate in the wind led us to eliminate them wherever possible. Experience proved, however, that though far from rigid, the supports were remarkably stable and, in reasonably smooth air, gave pictures which show no perceptible camera-motion.

Altogether about nine or ten different locations for the camera were used to show different phases of flight and call attention to different points. The flight sequence of the script finally evolved as a simple glider flight of sufficient duration to show the various factors involved in taking off, keeping the plane aloft in the upward currents on the windward side of a slope, and landing. We plotted this flight very carefully, trying to choose the best camera-location for each shot. About thirty-five flights were required to get the shots we needed.

We ran into some amusing things, too. After fighting a tripod for a full day and wasting 150 feet of film in an effort to get 20 feet of soaring gulls, we decided that maybe there were times when a tripod wasn't really necessary. Doubling the camera-speed and using a 2" lens, we got good results on hand-held shots. The other tough but amusing assignment was getting the background for the titles. We wanted this to be a shot of the glider in flight, and it was necessary to get footage equivalent to the entire capacity of the camera spring. One of us had to run the tow-car for the ship. That left the other fellow standing out on the edge of the cliff behind the tripod, a wrist-watch taped over one ear, trying to follow the plane in the finder, start the camera, fade in with the lens iris, count the seconds by the ticks of the watch, and iris out at the very end of the run. Really quite a problem in mental gymnastics!

As was to be expected, we got some shots that we didn't think we could get, and others that we thought were going to be easy, proved impossible. Not having the resources to spend unlimited time on any one thing, this sometimes called for minor changes and a good deal of ingenuity in cutting. On the whole however, surprisingly few retakes were necessary and we considered that cutting 1200 feet to 400 a good percentage in view of the difficult nature of the subject. Our work would have been easier if we had been able to obtain processing facilities comparable to those available in 35mm., but the film seems in a way unique because it could not have been made with a 35mm. camera. Added weight and bulk would have made impossible many of the things we did.

It was amazing to us how Hawley Bowlus was able to fly at all with that heavy bulge hanging seven feet in front of the ship and half-way to the wingtip, sending its inevitable turbulence toward the leading edge. But it was no ordinary ship, and no ordinary pilot. When questioned anxiously, he smiled and said "I didn't even know it was there!"

The sound was done at Telefilm by our good friend Peter Gioga, and Don McNamara presided at the microphone. Finding suitable recorded music was a task. There is much "soaring music" to be had, but most of it is too sad. We finally agreed on parts of the "Mother Goose Suite" by Ravel. It had a flowing rhythm which seemed to fit the emotion

we were trying to convey. After all, the feeling was what we were trying for; we hope the audience will not be conscious of the technique, and that they, too, will be carried aloft and enchanted by this "dream of the ages come true."

END

Caribbean Cruising

(Continued from Page 72)

skirts of Charlotte Amalie there is a quaint little settlement of French who fled from the Breton coast to the new world in search of religious freedom. They originally settled on St. Bartholomew, but later moved to St. Thomas where they have enjoyed the privilege of living their own lives both under the Danish rule and the United States government. They prefer to live by themselves, are somewhat emaciated from intermarriage and are pathetically poor, but seem to be content with their lot.

Their doll-like houses cluster around the Catholic Church which dominates their village and life. The women all wear the same style straw hats made from native grass by their own hands. The men's hats are made of the same material but are a trifle different in shape. The women and children all weave hats, mats and baskets to sell to the tourists. The men, although small in stature, are sturdy fishermen who take their frail, open boats far, through rough seas, to make a small catch to supply food for the family and have a few to sell for cash.

Almost adjoining St. Thomas is the island of St. John, once rich with large sugar plantations but now famous only for bay rum and a truly primitive life in a land entirely free from automobiles. There are some of the most beautiful palm-fringed bays in the whole West Indies tucked away beyond the headlands in St. John. The water is unbelievably clear and blue. It is an ideal spot to build up a recreation sequence by making a trip on a small pleasure sail-boat, working in lounging, bathing, fishing, sailing and camping. Horses can be rented on St. John for trips to some of the plantation ruins, and if you have a group you can build up a good action-sequence with the riders.

On St. Croix, the two ancient towns of Fredrickstad and Christenstad are picturesque and there is some historical importance in the store where Alexander Hamilton clerked as a boy. The countryside of St. Croix is flat and unimpressive. Sugar is the principal crop and there is a distillery where the United States government is in the business of making rum.

Going east, it is over a hundred miles to the next island, St. Martin, half French, half Dutch, and there is really no reason to stop there for pictures.

About forty miles to the south is one of the most unusual islands in the West Indies. It is Saba, a Dutch Island where 1600 people eke out a scant living from the steep, rocky sides of an extinct volcano and live down in the now dor-



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mant crater. Everything about Saba is interesting and there is a picture at every turn of the trail. Saba is the kind of place in which you will want to stay a couple of weeks and make a complete documentary reel.

Next comes St. Eustatius, another Dutch island—poor and uninteresting photographically.

Then St. Kitts, English and also uninteresting for pictures.

About twenty miles south is St. Nevis, famous as the birthplace of Alexander Hamilton and really rich in picturesque settings with quaint buildings and aged trees. This far south the lush tropical vegetation is much more in evidence and

the landscape seems to swing into suitable picture-proportions.

To the southeast is Antigua, very British in atmosphere and history. It was here that Lord Nelson set up shipyards to recondition his ships. The old fortresses on land promontories are good for atmosphere and it is worth a stop-over.

Next in line to the south is Guadeloupe, French in every respect. The market square with fountain in the center is by far the most photogenic market of all. The women are also picturesque and their wares varied and colorful. You can get all angles on this market including a high shot looking down from

a balcony, views looking through the sturdy iron fence, angle-shots including part of the fountain, and all kinds of close-ups. To make the close-ups as natural as possible it is advisable to use a hand-camera, and if possible a long-focus lens. I've always found that if I don't rush in and start shooting as soon as I arrive, but casually look around and linger with the people. It is much easier to make natural shots after they have become accustomed to seeing me.

Dominica is the wildest and most primitive of the lot and it is here that the only surviving Carib Indians live in seclusion—two days by donkey trail back into the mountains. The passenger steamers usually arrive in Dominica at night. There's great rivalry between the stevedores who paddle out in great dugout canoes to take off the cargo. They lie off at a distance until a signal is given and then paddle furiously to see which boat can get the first sling of cargo. If you can have Mogul-base 2000 watt photofloods put in the ship's floodlights, then you can really get some dramatic shots of these natives in their boats. You will of course have to use Super XX or Triple-S Panchromatic with your lens wide open. **To Be Continued**

Showcase

(Continued from Page 78)

we find, is not the case. It's a standard General Electric S-11, bayonet-base 110-Watt projection globe. Movie-Mite engineers inform us it illuminates the MM.'s screen with approximately the same brilliance as the customary 750-Watt lamp on a screen 27x36 inches. We apologize to both Movie-Mite and our readers for the error, which came from a too-hasty inspection of the first "mighty mite" seen and heard in Hollywood. Or maybe the new sealed-beam headlights on our car led us to over-rate auto globes!

B. & H. 2000-Foot 16mm. Reel

Completing the Bell & Howell line of 16mm. projection reels is the new, 2000-foot spring-steel reel recently introduced. The B&H line now includes 400-, 800-, 1200-, 1600-, and the new 2000-foot reels, all of spring-steel. The big, new reel may be used with sound projectors as well as with the larger 16mm. silent projectors. It will permit an hour's continuous projection of sound film, an hour and a half of silent film.

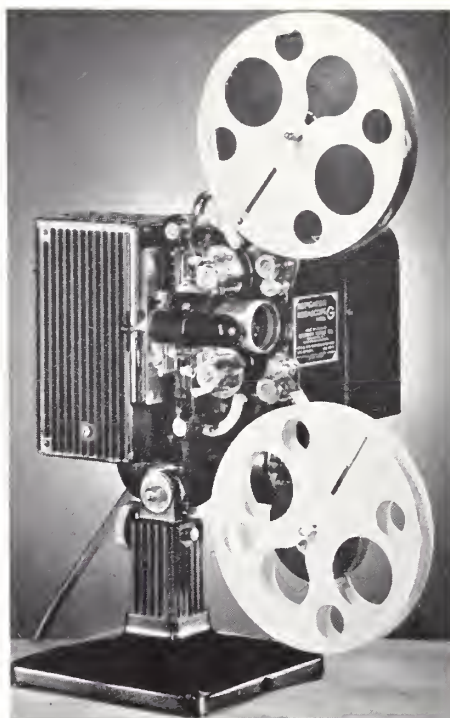
The new 2000-foot reel retains the threading ease of all other Bell & Howell reels. The film is simply pressed against the hub, where spring clips hold it firmly in place.

A footage gauge, engraved on each reel, shows at a glance the amount of film wound on the reel. The smooth, rounded edges on rims and spokes prevent cutting or scratching fingers or film.

The Bell & Howell announcement states that a 2000-foot humidor can, cadmium plated to prevent rust, is available for the new reel. The film title may be

written anywhere on the can without using a paper label, and the "tell-tale" disk of the humidor pad is an added convenience in indicating visually when moisture is required for black-and-white films.

The new spring-steel 2000-foot 16mm. reel is priced at \$4.00, the 2000-foot humidor can at \$3.00.



Repeater Kodascope For Business Films

The Repeater Kodascope, Model G, is designed for automatic repeat projection of 16mm. films with a time interval between each showing, is intended for use in shop windows, exhibition booths, and all other places where a motion picture is to be shown at regular intervals without the continuous attention of an operator. It projects any 16mm. film up to 400 feet, or any desired part of the film . . . then turns off the lamp and rewinds itself as the crowd changes . . . and then automatically opens another projection cycle.

An interesting feature—and one of the most popular—is that no cutting or loop-splicing of the film is required. To prepare any 16mm. film for repeat projection, small adhesive rubber pads are simply pressed into position near the start and end of the reel. These pass between small rollers and actuate electric relays, thus starting or ending the projection cycle. The pads can be placed for projection of the whole reel, or can be set to bracket a small section of particular interest, omitting the rest of the show. And they can be removed readily without injury to the film.

Should the film break or lose its loop, projection stops automatically and immediately, preventing film damage.

Aside from its repeat mechanism, the Repeater Kodascope, Model G, is iden-

tical with the regular Kodascope G. There are available six lenses in various focal lengths, and three lamps of various wattage, providing a choice of eighteen lens-lamp combinations to take care of almost any given set of projection conditions.

Maurer Forms New Firm

The formation in New York of a new company under the corporate name J. A. Maurer, Inc. for the production and servicing of professional 16mm. sound motion picture equipment has just been announced by its president, John A. Maurer.

The new company takes over the assets and business of The Berndt-Maurer Corporation, founded in 1934, and will manufacture the Sound-Pro Camera, B-M Sound Recording System and B-M 35mm. Sound Recording Galvanometer Units as previously. Manufacturing and marketing policies continue as formerly without any changes in equipment design but with increased emphasis on new developments in motion picture equipment and related fields.

John A. Maurer, who for the past two years was president of The Berndt-Maurer Corporation, continues in the same capacity for the new organization. He is best known for his pioneering work in the development of 16mm. sound motion picture equipment. Outstanding among his contributions is the B-M Sound-On-Film Recording Unit which several years ago introduced a new standard of reliability for this type of equipment. This invention overcame the disadvantages of conventional design by providing a unit capable of handling a sound overload as great as fifteen hundred percent without showing evidence of unfavorable results.

The Vice-President of the new company is William H. Offenhauser, Jr., who will continue as Manager of Precision Film Laboratories, a division of the company which is operated separately and devoted to the processing of sound motion picture films. He is an active member of the Society of Motion Picture Engineers and is well known for his numerous efforts to improve motion picture and sound quality on 16mm. film through advances in processing technique.

Former Factory Manager of The Berndt-Maurer Corporation, Andrew Haxton, becomes General Manager of the Equipment Manufacturing Division of the new company.

Frank Hargrove, who continues as Sales and Advertising Manager for J. A. Maurer, Inc., is a graduate photographic technician whose past experience includes the handling of marketing activities for such companies as Westinghouse and Folmer-Graflex.

Named Purchasing Agent and Traffic Manager of the new company, O. T. Westgard will assume the same duties for which he was formerly responsible in The Berndt-Maurer Corporation. All other personnel of both office and factory will continue in the same capacities for the new company.

Black Tip for G-E 300's

General Electric's lamp department at Nela Park, Cleveland, announces an opaque end-coating (black) on seven types of T10 300-watt G-E Mazda projection lamps. This opaque end finish—at no additional increase in lamp list price—brings these lamps in line with the manufacturer's 400 and 500-watt T10, and 750, 1000 and 1200-watt T12 projection lamps.

The opaque end-coating is now on all G-E Mazda lamps used for 16mm. motion picture projectors and on the majority of lamps used in 8mm. equipments.

Purpose of the opaque coating is to give greater convenience to trade and to consumer and to give better lamp performance. It eliminates the need of providing a metal cap designed to trap stray light which otherwise escaped from the end of clear lamps and shone through the ventilator openings of the projector. It does away with the discomfort of removing the cap from a hot lamp.

New Agfa Sound-recording Film

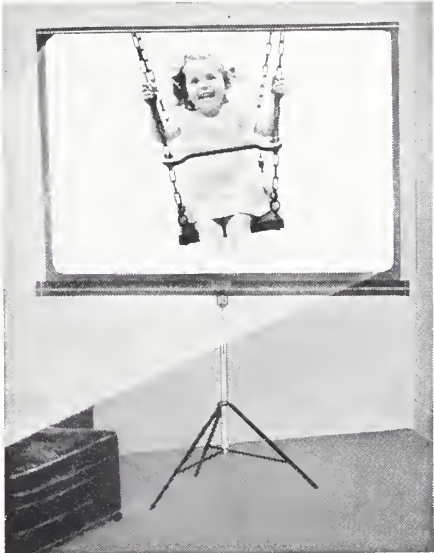
In keeping with the progress marked in other fields of photography, a new high-resolving sound-recording 16mm. film has been introduced by Agfa Ansco which should go far to advance the standards for high-quality sound reproduction in 16mm. motion picture work.

The sensitive coating of this new film is made by a new process of emulsification which results in an emulsion structure of unusual homogeneity and uniformity of crystal size. This insures clean, sharp resolution of the sound-track recorded on the film with a blue-filtered exposing light. In order to prevent deep penetration of the blue light into the sensitive layer, with its accompanying diffusion and halation through inter-crystalline reflections, the emulsion is screened with a water-soluble dye. This screening effect fulfills the double function of assisting in creating a surface image and preventing deep penetration of light into the emulsion layer, even with overexposure.

This principle of obtaining a surface image is similar to that employed in 35mm. sound-recording where ultra-violet recording has been adopted to obtain highest quality sound reproduction. Although well suited for 35mm. work, ultra-violet recording technique has not been so successful when applied to 16mm. equipment because of light-limiting factors imposed by the ultra-violet filter, smaller optical systems and light-valves. Accordingly, the common positive-type emulsion has been in general use for 16mm. sound-recording.

The special properties of the new Agfa high-resolving sound-recording film make it an ideal material for variable-area recording equipment, especially when differences between crest and base illumination are great. With ordinary positive film used for this purpose, it is practically impossible to put enough light through the galvanometer to ob-

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tain clean crests of printable density without causing the valleys to become filled with the combination of inter-crystalline reflection and halation due to overexposure. The new Agfa high-resolving sound-recording film is said to overcome this limiting factor by enabling the recording of high frequencies with a clean, crisp wave form having fully exposed crests and open valleys.

It is not practical to give exact resolution data in terms of frequencies since much depends upon the recording equipment and the way in which it is being used. Optimum resolution is obtained when a filter transmitting between 4000 and 4500 Angstrom Units is employed with the exposing light. With recorders

having insufficient light for a filter of these characteristics, a lighter blue filter having transmission in the blue-green can be used with some sacrifice in resolution. Even when employed with regular, unfiltered incandescent illumination, the new film is claimed to produce much cleaner sound-tracks than are obtainable with ordinary positive film.

Made in Binghamton, New York, by Agfa Ansco, the new Agfa 16mm. high-resolving sound-recording film is obtainable through usual sources of supply in standard lengths. It may be handled under usual positive safelights and can be developed in any clean-working developer producing good contrast, such as Agfa 20 Positive Developer.

Title-Making

(Continued from Page 70)

of travel folders as a hand picks up one and draws it closer to the camera. There are innumerable ways to open pictures in this manner and I believe that it adds greatly to the tempo. Tempo is the pace or speed at which a story moves and inasmuch as screen action is motion, then moving titles should enhance the tempo. If all action must be stopped to inject a still title, it must necessarily slacken the film tempo. Thus, if many titles are used, a film can become very draggy.

Many of the newer models of cameras are now equipped with a film back-winding mechanism which facilitates the lap-dissolve problem. I have been requested to give a method of making wipe-off titles for cameras which do not have this back-winding feature. A wipe off title appears to wipe off the screen and is replaced with the following subtitle. Purchase two or three small roller window shades about four feet long at the five-and-ten-cent store, either in tan or white. Unroll one shade and letter your main title in the middle of it, allowing enough margin from the edges to keep the width of the shade outside of the camera field. The main title is lettered "A MOTHER'S OR-DEAL." On the second shade, the credit title is lettered—

CAST

THE MOTHERJANE DOE
THE SONJOHN DOE
DETECTIVES{ BILL DOE
 } BOB DOE

Each title must be within the same sized area for the camera field. The third shade is lettered—

PHOTOGRAPHYJAMES DOE

Now lay title Number One on a wide flat surface or floor and thumb-tack the end of the shade to the surface. Place the camera on a tripod, shooting down on the title. Center the title in the finder and be sure to allow for parallax. Now lay title Number Two over title Number One and center its lettering in the finder and thumb-tack the shade end. Title Number Three is placed on top of title Number Two and properly aligned. Roll up title Number Three and Number Two out of the camera field and practice unrolling them over title Number One for uniformity of speed. Don't unroll the titles too fast as you will lose the effect of the wiping off of the titles.

After you are satisfied that the exposure and focusing indicator are properly set, expose title Number One, allowing sufficient reading time. While the camera is still running, unroll title Number Two over Number One and ex-

pose footage for adequate reading time. Then unroll title Number Three over Number Two and fade out for the end. You can vary the wipe-offs by letting one shade unroll from top to bottom of the screen and another from the opposite corners or sides. It is very necessary, however, that each title be placed exactly on top of each other so that the lettering is properly aligned in the camera.

Titles which are superimposed on moving backgrounds can be easily filmed, especially in 8mm. Load the camera with a new film, mark the starting-point, and run off eight or ten seconds of the leader, using the second hand on your watch to time the operation. Select three scenes suitable for the wording of three titles, and by your watch film each scene for exactly ten seconds. After this, the balance of the roll may be used for other purposes. After completing the roll, reload it in the camera and again run off the leader with your watch. Scene Number 1 is now in position for title Number 1. Using white letters on a jet-black background, expose title Number 1 for ten seconds. Then expose title Number 2 and Number 3 for ten seconds each. Cap the camera lens and run the balance of the film through the camera. Once you've practiced a bit, you can also fade the lettering of the titles in and out by opening and closing the diaphragm of your lens. The final results should give you snappy white letters against your backgrounds. To increase the contrast, filter the backgrounds slightly to darken any sky areas. The same method can be used in 16mm., but of course you'll have to rewind the film in the dark after first exposing the roll.

Another novel transitional effect can be made by placing stippled or fluted glass, such as is used in shower doors, over the title-card. When the glass is in contact with the card, the lettering can easily be read. By lifting the glass towards the camera, the lettering will become very blurred. When the glass has been lifted after exposing the first title, change the card and lower the glass down into contact with it again. If this is done without stopping the camera, you will get an effect of one title blurring out and the second title coming into a sharp focus. This type is very attractive with Kodachrome, as many rainbow hues are created by the out-of-focus effect. Many a unique effect-title can be made without a back-winding camera, though it requires more patience and thought. Titles of this nature are far more effective and interesting than a cavorting, jumping, animated hodge-podge.

Just as you appreciate a neat, attractive cover on a book, your film audiences appreciate a neatly-titled introduction. Titling is just as important a phase of photography as the editing, camera technique, etc. The care and planning that is evident in your picture should also be reflected in your title technique.

END



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"Teen-Age" Script

(Continued from Page 73)

down front steps to lawn, camera panning with him.

Scene 22: Long-shot. Bob standing on lawn, his fists clenched.

Bob: Come on down here and I'll show you I mean it.

Scene 23: Medium-shot. Art takes off his coat, then runs out of scene toward camera.

Scene 24: Long-shot. Art runs onto lawn, camera panning with him. Makes a flying tackle at Bob, but Bob side-steps and Art goes sprawling.

Scene 25: Long-shot. Art picks himself up and approaches Bob more carefully. Bob has his fists up and both boys exchange swift blows.

Scene 25-a: *ad lib* a series of extreme close shots of the fight—fists landing, facial expressions, etc.

Scene 26: Long-shot Nan walking along street. The camera dollies or pans with her. She glances off, and is horrified by what she sees.

Scene 27: Long-shot. Bob and Art battling furiously, with Bob getting the best of it. Nan rushes up and tries to separate them.

Scene 28: Closer three-shot. The boys are still fighting, but Nan finally gets between them.

Nan: Bob—Art—what are you trying to do? Kill each other?

Scene 29: Two-shot of the boys. (Break this into individual shots for silent film.)

Art: (pointing to Bob) He started it.
Bob: You don't really like him, do you, Nan?

Scene 30: Medium two-shot, Nan and Art.

Nan: Certainly I do. I'll go around with anyone I like, Bob Sheffield!

Scene 31: Close-up of Bob, hurt. He gives Nan an inquiring stare, finally hardens.

Bob: All right Nan, if you want it that way.

Scene 32: Full-shot of the three. Bob slowly walks away from the other two, the camera panning with him. FADE OUT.

Scene 33: FADE IN. Medium long-shot. Art's car is parked outside Nan's home. There are fishing-poles tied to the car. Art is in the car and Nan just getting in.

Scene 34: Medium long-shot, from car. Billy comes running up to it, yelling.
Billy: Hey, take me with you!

Scene 35: Two-shot, Nan and Art in car.
Nan: Do you mind if he comes with us?

Art (bored): Oh, I guess not.

Nan: Well, run in and tell Mother you're going with me.

Scene 36: Medium-shot. Billy, delighted, races off toward house. LAP-DIS-SOLVE to similar shot in which he races out of house and gets into car. The car drives off. FADE OUT.

Scene 37: FADE IN. Art's car pulls up near banks of a lake. The three get out and start unloading rods, etc.

Scene 38: Full three-shot. The kids walk to bank or pier. Art and Nan start adjusting their fishing equipment. Billy wanders off, camera following him. FADE OUT.

Scene 39: FADE IN. Full-shot. Billy coming to another part of the shore. He finds a canoe or boat (even an old log will do) and starts pulling it to the water's edge.

Scene 40: He gets in and shoves off.

Scene 41: Full-shot. Art and Nan busily fishing.

Scene 42: Long-shot. Billy, seen from shore. He is now quite a way out from the bank.

Scene 43: Full-shot of Billy. Suddenly his craft tilts and he is thrown into the water. He struggles and grabs at the still-floating boat, yelling for help.

Scene 44: Same as Scene 41. Art and Nan still fishing. They hear the cries, look up and are horrified at what they see.

Scene 45: Long-shot. Art's and Nan's heads and shoulders frame the foreground; in the background, Billy is seen floundering in the water. Nan turns profile to camera, speaking to Art. (Break into close-ups for silent picture.)

Nan: Oh Art—he can't swim—save him!

Art: But, gee, Nan—I can't swim out that far—besides—

Nan: Art, please do something.

Scene 46: Long-shot. Bob is walking quietly along by the lake-shore. He stops, listens, and looks over his shoulder, then runs off (in a different direction) toward shore. Camera follows him.

Scene 47: Art and Nan standing ex-

citedly on bank of lake. Bob comes running into scene.

Bob: Hello Nan—what's the matter?

Nan (pointing): Look!

Scene 48: Long-shot, Billy holding onto his craft. His hands are slipping.

Scene 49: Close two-shot, Nan and Bob. Bob's eyes open in surprise at what he sees. Nan looks at him pleadingly.

Nan: Bob—he can't swim—save him!

Bob: You bet I will, Nan.

Scene 50: Full three-shot, Art, Bob and Nan. Camera follows Bob as he takes a running dive into lake.

Scene 51: Full-shot. Bob swimming as hard as he can, away from camera.

Scene 52: Close shot, Billy clinging to his craft.

Scene 53: Long-shot, Bob swimming away from camera.

Scene 54: Close-up of Nan, looking into camera. Her face is taut with fear.

Scene 55: Full-shot. Bob—back to camera—swims to Billy, grasps him, and starts swimming back toward camera.

Scene 56: Full-shot. Bob swimming toward camera, towing Billy. LAP-DIS-SOLVE to shot of Bob scrambling ashore with him.

Scene 57: Bob carries Billy, limp and groggy, up the beach. Nan and Art run in, Nan going directly to her brother. Bob places him on the ground.

Scene 58: Medium two-shot. Nan hugs Billy.

Nan: Oh Billy! Billy!

She looks up at Bob.

Nan: Oh Bob, you were wonderful!

Scene 59: Close-up of Bob. He looks shy and embarrassed.

Bob: Aw—it wasn't anything, Nan.

Scene 60: Close-up of Nan, smiling happily. FADE OUT.

TITLE:

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Scene 61: FADE IN. Trucking shot of Nan and Bob, again walking home from school together. (Follow this with individual close-ups for silent film.)

Bob: Then you really like me, Nan?

Nan: You bet I do, Bob. Art had me fooled for a while, but not any more.
Scene 62: Long-shot. As Bob and Nan enter scene along sidewalk, Art's car drives up and stops.

Scene 63: Close shot, Art, leaning out and speaking.

Art: Wanta ride home with me, Nan?

Scene 64: Medium two-shot, Nan and Bob. Nan shakes her head, and Bob makes a gesture for Art to be on his way. They smile at each other and start down the sidewalk again. The camera follows them. FADE OUT.

TITLE:
THE END

Focus

(Continued from Page 68)

focus—say from a distance setting to a closer one as your subject walks from a long-shot angle in to a closer position. This can be done easily, with only one or two rehearsals. Just begin by bringing out the tape-measure, studio-wise, and measuring the distance for the two points of focus. Then reach around to the lens with your free hand—usually the left one—and notice in what position your fingers grasp the lens at the start, and then after you've changed the focus to the other position. Go through this motion a few times and you'll be surprised how easy it is to change your lens from one focal position to the other without looking at the calibrations, work-

ing solely by feel. It's a point in your favor, too, that most normal 16mm. and 8mm. lenses have so much depth of field that they'll cover up minor errors on your part.

Some amateurs have used little metal rods which clamped around the diaphragm control ring of the lens as an aid in making fades and in following focus on exposure. They simply pre-set the rod with relation to the diaphragm ring so that they begin the shot as usual, and then swing the rod so that it cuts into the finder, at which point they'll know they've opened or closed the lens to the point desired.

This gadget can be used to simplify optical focus following, too. Instead of clamping it to the diaphragm control, clamp it to the ring which controls the focus. In just the same way, it can be set so that when the rod bisects the finder, you'll know you've shifted the focus to the right point.

Idea Exchange

(Continued from Page 77)

compartment beside the notebook.) The box is covered by a hinged cover, which may be fitted with a catch to hold it shut.

For my 16mm. camera, I've some adapters which permit me to use the lenses from my Leica as telephotos for the cine-camera. They're mighty good lenses for the purpose—but they're a good deal more bulky than most regular cine telephotos. So I had three little cannisters made up from duralumin tubing, each of the correct size to hold one of the Leica lenses.

These containers are snapped onto the three legs of the tripod by means of dovetailed slips like those used on the Leica to hold extra finders, range-finder, and the like. In this way, each case can be removed from the tripod when shooting is over, and will serve as an extra-durable case for the lens at all times.

I had duralumin covers made for each of these lens-cases. They fit onto the case with a bayonet-type catch. This is made very simply by placing two little pins on opposite sides of the case, and cutting appropriate L-shaped slots in the sides of the covers. Thus you can slip the cover on, give it a little twist, and be confident the cap won't come off unexpectedly and spill your lens out as you are carrying camera and tripod about between shots.

The inside of the metal cases should be lined with felt or velvet to protect the lens, and it's not at all a bad idea to have a little padding at the bottom to cushion the drop when you put a lens into its case in a hurry. If you make these cases, as I did, just big enough to hold the lenses they're to carry, it will be easier to get the lens out of the case if you cement a leather or fabric strap to the inside of one rim of the case, and extend it across to a slot or loop on the other side. Put the lens on this strap and lower it into the case; to get the lens

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out, just pull gently on the free end of the strap, and the lens will be lifted up. My cases, as stated, were made to hold Leica lenses; but cases built to accommodate the smaller telephotos regularly used on 16mm. cameras will be just as handy!

GAETANO FAILLACE.

Projectors

(Continued from Page 75)

time, by a rocker which is fitted into the bottom loop of the film; this system is much more accurate than it might appear. It was used successfully for many years in some of the best of the pioneer professional cameras.

2. The "intermittent-sprocket" movement, which is placed below the aperture and revolves intermittently and partially through an angle sufficient to pull the film downward one frame at a time. This is used in the De Vry 16mm. projectors, and in many 35mm. theatre machines.

To Be Continued

Movie Clubs

(Continued from Page 76)

der, and Jack L. Krapp, co-founder of the club, were presented with a filter kit and a make-up kit, respectively, as tokens from the club in recognition of their efforts.

Long Beach Elects

At its January meeting, the Long Beach (Calif.) Cinema Club inaugurated new officers for 1941. Miss Mildred Caldwell replaced Harold Hilliger as President; Ted Phillips and Clarence Aldrich were elected Vice-Presidents; Ray Fosholdt was elected Secretary-Treasurer; H. E. Ward was for the third year re-elected Projectionist, and Bert Williamson, Robin Hadley and H. E. Ward were elected directors.

The new President, Miss Caldwell, has gone to Honolulu to take pictures for the club. In the four years of the Club's existence, it has made an average of two feature-length pictures and several shorts per year. All cameramen may film these stories if they like. The last production, "Happy Landings," is now in the cutting-room and will be ready for preview showings in about 30 days. Seventeen cameramen, both 8mm. and 16mm., shot the story.

Philly Has Contest

All of the winners, and all but one of the entries in the Annual Contest of the Philadelphia Cinema Club, judged at the Club's January meeting, were in Kodachrome. The winners were, 1st Prize, "Hard A-Lee," (16mm.) by Herbert L. Tindall, Jr.; 2nd Prize, "Country Fair," (16mm.) by George A. Pittman; 3rd Prize, "Christmas, 1939," (8mm.) by W. J. Bruner, Jr.; 4th Prize, "Eloquence of Beauty," (16mm.) by V. E. Woodcock; 5th Prize, "Life Is Like a Garden," (8mm.) by Dr. C. A. Bowersox.

Washington S.A.C. Hears Haythorne

Reed L. Haythorne, A.S.C., was the scheduled speaker at the January meeting of the Washington Society of Amateur Cinematographers. In addition, member Wilbur Comings exhibited the movie record he made of the previous meeting's demonstration of lighting, and H. P. Baines presented the second installment of his Kodachrome world-tour "serial."

In one popular 16mm. camera, when shooting at 64 frames per second, the film reaches a speed of nearly 9 miles per hour between each successive frame-exposure, with the stop and start 1/320th second apart.

Photography of the Month

(Continued from Page 65)

raphy and comparatively dark sets—a distinct advantage in this sort of camera-magic. In the present film, he does much of his work with relatively high-key lighting, and against light sets—some of them as nearly white as Art-Director Jack Otterson's set-painting scheme ever allows. Doing all this on what must have been a remarkably short schedule, Fulton deserves high praise indeed; there is but one of his innumerable trick-shots which is not a remarkable example of technical perfection. In that one, the wavering matte-line between Miss Bruce's clothes and her invisible head is rather unpleasantly apparent, and it is unfortunate that the shot could not have been redone.

On the production side, Director of Photography Elwood Bredell has also done a most capable job. Coordinating production camerawork with the techni-

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cal requirements of this type of camera-trickery is no easy task. Doing this on an evidently short schedule, and with few, if any, new sets, is something that really calls for high skill. Bredell has done his work very well indeed. His treatment of the players is excellent; personally, this reviewer considered the shots of Virginia Bruce—those in which she was fully visible, that is—showed her to better advantage than she has appeared in many a more pretentious film.

The range of sets and action in the picture, and its extreme range of dramatic moods—from broad slapstick comedy

to “chiller” melodrama—made it almost impossible for Bredell to turn out a visually consistent picture: but in spite of these handicaps, he has done a very meritorious job. Some of his exteriors are really uncommonly fine examples of skillful composition and filtering. We'd like to see him given a film that would give him a chance to live up to the best of these.

HIGH SIERRA

Warner Brothers'-First National Production.

Director of Photography: Tony Gaudio, A.S.C.

Special Effects: Byron Haskin, A.S.C. and Hans F. Koenekamp, A.S.C.

Lavishing the superb photographic gifts of Tony Gaudio, A.S.C., on “High Sierra” seems rather like using a pile-driver to crush a mosquito. The mosquito is very effectively crushed, no doubt; but the pile-driver could do other jobs far more appropriately. In the same way, Cinematographer Gaudio has handled the photography of “High Sierra” in his accustomedly capable fashion—but “High Sierra” is not such a vehicle as, say, “The Letter,” to benefit by Gaudio's mastery of the photographic medium.

To put it bluntly, “High Sierra,” for all its pretentious cast and production, is just another gangster picture which, aside from some spectacular location-scenes in the Sierras near Lone Pine, along the Rim of the World, and elsewhere, offers the Cinematographer very little opportunity for distinction.

What Gaudio could do, of course, he did. He has photographed the principals—especially Ida Lupino—with all his usual skill. But the settings and action were against him from the start. So, too, we can suspect, was the schedule. Another definite handicap was the make-up—especially the wig—worn by Henry Hull in a fruitless effort to portray an old man. Our friend Perc Westmore received screen credit as makeup artist on this production, but we would hate to think he was responsible for Hull's atrocious make-up. Recalling that this actor achieved a large share of his fame for portraying the incorrigible “Jeeter Lester” in the stage's “Tobacco Road,” (and the appearance of his make-up in the stills from that play) we're much more inclined to blame the actor himself.

The Special Effects Photography of Byron Haskin, A.S.C., and Hans Koenekamp, A.S.C., is one of the better things about the production. There is a great deal of it in “High Sierra,” and it is, almost without exception, handled very well indeed.

LIFE WITH HENRY

Paramount Production.

Director of Photography: Leo Tover, A.S.C.

“Life With Henry” isn't the sort of production that can offer Director of Photography Leo Tover the unusual pic-

torial opportunities a film like “Victory” did. None the less, Tover has handled it in an eminently satisfying manner. From start to finish his camerawork proceeds with a sureness and finish that are well worth seeing.

Amateurs especially will find the many sequences in and around the Aldrich home well worth careful study. In many ways the settings designed by Hans Dreier, Earl Hedrick and A. E. Freudenman to represent the Aldrich home are more truly typical of an average American home than are those of most “family” series. Bringing these rooms to the screen, Tover's treatment is an excellent object-lesson in how to light the average room. His use of cast shadow-patterns on the walls, for example, while a trick used in most modern films, is done here not only against settings such as the average amateur might find in his home, but done with a restraint and subtlety which are praiseworthy; for once these patterns lend themselves to natural, pictorial effect without—as is sometimes the case—becoming too “arty.”

The light-balancing in the evening sequence on the Aldrich porch is another point that deserves attention. While it is to be assumed that in this instance the expansive background of street and lawn was another of the excellent projected backgrounds which Farciot Edouart, A.S.C., and his capable staff turn out, and as such easier to balance with the front light under the porch than would be the case in actuality, the use of extremely diffuse front-light, of relatively low intensity, coupled with a low-key print, gave an unusually natural effect.

On the other side of the ledger must be mentioned the fact that the musical score by Friedrich Hollander was frequently intrusive, and that in a film graced by a more than ordinary number of excellent projected-background scenes, in one scene—the one on Michigan Avenue, when the Chicago policeman directs “Henry” to the office-building—someone appears to have forced Farciot Edouart's usually capable hand either in choice of background or in lining up, with the result that on the screen the scene is notable as one of the very few inferior transparency-shots we've seen come out of Paramount in a long time.

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As a means of publicizing the service and installation department of the Kalart Company's West Coast Branch in Hollywood, Miss Leda Dubin, Kalart west-coast manager, announces that no charges will be made for installing Kalart Sistogun speed-graphic focal-plane flash synchronizers purchased during the month of February and sent to this branch for installation. The Hollywood branch, she points out, is now fully equipped to handle service and installations on all Kalart equipment, including Sistoguns, Kalart micromatic flash synchronizers, and Kalart range-finders. The address is 619 Taft Bldg., Hollywood.

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Australia Builds 16mm. Sound Projectors

Australian imports of British-made 16mm. sound projectors, recently reduced to the vanishing point by the exigencies of the war, are soon to be supplemented by Australian-built units of the well known Gebescope (British) 16mm. sound-on-film projector.

According to an announcement in the October issue of the Australian Amateur Cine Society's organ, *Movie News*, the Gebescope Australian distributor, Precision Engineering Company, Pty., Ltd., is starting to manufacture these machines in Australia.

The Gebescope 16mm. sound projector was developed by British Acoustic Films, Ltd., of London, and marketed by Gaumont-British's subsidiary, G. B. Equipments, Ltd., from which it derives its name. A large number of the G. B. 16mm. units are said to have been sold already in Australia, and despite the war demand for them is said not to have lessened.

With the supply drastically reduced by the Battle of Britain, the only alternative was for the Australian distributor, already a manufacturer of 35mm. sound projection equipment, to build them in Australia. The Australian-built units will be duplicates of the British-built models. Deliveries are planned to start early in 1941.

The Gebescope projector may be operated on either alternating or direct current. Projection illumination is supplied by a 500-watt, 100-volt concentrated filament projection lamp through an efficient condenser and lens system.

The design of the lamphouse is such that light from the projection lamp serves as an exciter lamp for the sound scanner. Light from the projection globe is transmitted from the projection lamphouse to the sound scanning system by means of an optically ground quartz tube.

The picture projection mechanism utilizes a long, curved film gate, and substitutes edge tension for the conventional surface tension. This it is claimed provides ample picture steadiness while eliminating danger of scratching the film.

The mechanism is driven through precision-cut hobbled gears, and all major bearings are of the oilless type. Two operating speeds are provided: the con-

ventional 24-frame sound speed and 16-frame silent picture speed. The usual provision is made for coupling either disc turntable or microphone to the Gebescope's sound amplifier.

Air Corps Gets G-E Meters

An order for exposure-meters amounting to approximately \$12,000 has been placed with the General Electric Company by the U. S. Army Air Corps, according to F. G. Vaughn, manager of the G-E meter division at Schenectady.

The meters will be delivered to Wright Field for distribution to the various divisions of the army's air service, and they will be used in both aerial photography and studio work.

The Air Corps has been using General Electric exposure-meters for the past year. Their uniform accuracy is particularly helpful in aerial map-making, where an even density is essential when a number of shots must be pieced together.

"The wider use of exposure-meters in the important photographic work conducted by the U. S. Army Air Corps certainly attests to the increased regard now given to correct exposure in making pictures," stated Mr. Vaughn in commenting upon the order. "We are confident that the accuracy and sturdiness of the G-E meter will meet all requirements of severe field use under all weather conditions. Its sensitivity range as an exposure meter is 0.05 to 1700 candles per square foot; it can be used as a darkroom meter for printing or enlarging; and also, because it is calibrated in foot-candles, as a light-meter to balance photographic light."

Silk-Stocking Diffuser

An effective diffuser for diffused-focus effects can be made from an old silk stocking and a pair of small doily or embroidery hoops. Dye the stocking black and cut out a piece large enough to fit the hoops. To use the diffuser, mount or hold it in front of the lens while shooting, being careful no direct sunlight strikes the fabric. By using clippings from a variety of your wife's discarded stockings, of different meshes and textures, a correspondingly varied range of soft-focus effects can be obtained.

Real Laboratory Problem

In some of the pioneer movie studios the problem of developing the film was complicated by the fact that in order to develop negative or print, the film had to be cut up into six-foot lengths. The average feature was less than 200 feet long.

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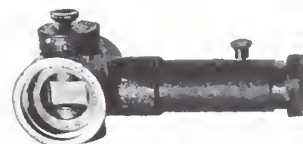
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As a part of Hollywood's contribution to the National Defense Program, a survey of Hollywood's trained technicians able and willing to serve the Nation, in event of an emergency, in work for which they are best qualified, is being made through the Research Council of the Academy of Motion Picture Arts & Sciences, under the chairmanship of Darryl F. Zanuck in his capacity as Lieutenant-Colonel in the U. S. Army's Signal Corps. Those interested may register by writing the Research Council at 1217 Taft Bldg., Hollywood, giving complete information on age, education, present position, studio connection, number of years in the motion picture industry, etc. This, Zanuck states, does not constitute formal enlistment, but merely participation in this survey of the industry's militarily-available resources.

Among the cinetechnical specialists needed in the formation of the G.H.Q. Signal Corps Photographic Unit are: animation and title supervisors, motion picture and still cameramen, laboratory chemists, clerks, cooks, picture and sound editors, motion picture electricians, laboratory equipment engineers, laboratory supervisors, machinists, motion picture engineers, motion picture camera department supervisors, negative cutters and assemblers, photographers (copy and printer), developers, projectionists, sound recording and re-recording engineers, supervisors, mixers, maintenance men, boom operators, recording and re-recording machine operators, etc.

Further information may be obtained from studio Research Council Representatives, including Zanuck, at 20th Century-Fox; Maj. Nathan Levinson at Warner Bros.; John Aalberg, RKO-Radio; Bernard Brown, Universal; Farciot Edouart, A.S.C., Paramount; E. H. Hansen, 20th Century-Fox; John Livadary, Columbia; Charles L. Lootens, Republic; Thomas Moulton, Goldwyn; Elmer Raguse, Hal Roach, and Douglas Shearer, A.S.C., MGM.

England Likes "Nine-Five"

More 9.5mm. cameras are said to be used in England than either 8mm. or 16mm. Although the 9.5mm. Pathe standard has never become popular in the United States, it offers European amateurs a frame-size virtually equal to 16mm. at a cost only slightly higher than 8mm. Abroad Bolex, Pathe, and others even offer 9.5mm. sound-on-film projectors.

Club Music Library

An idea worthy of adoption by other amateur clubs is that instituted some time ago by the Australian Amateur Cine Society. This club maintains a library of recorded thematic music for use of members when projecting their films at meetings.

American Calcite Discovered

Calcite, vital in the manufacture of Nicol prisms and other polarizing instruments, has been discovered in commercially workable deposits in the southwestern United States. Accidentally found by a Mexican prospector, the newly-opened deposit has produced calcite crystals up to 1½ feet across. Operators of the new mine have contracted to deliver to Bausch & Lomb the entire output of optically suitable crystals.

The result has been spectacular. Within a period of three months more than 500 pounds of fine spar crystals were mined. Imported crystals have averaged between two and four ounces, and not more than 300 pounds a year have ever entered the United States—none at all in recent years. The scarcity of optical calcite has caused a world-wide search for many years. The chief source had been from mines in Iceland, which had operated since the 17th Century, but which had been severely damaged during the First World War, permanently impairing the quality of its output. Finds have been reported from time to time from various countries, but with the exception of meagre shipments from Spain and South Africa, no calcite of optical quality has reached the market for many years. The new American find is therefore of considerable importance to the optical industry. Supplies of calcite are a necessity to makers of optical instruments of polarizing types, such as saccharimeters, colorimeters, photometers, polariscopes and polarimeters.

Pioneer Camera Trickery

From 1896 to 1914 the "ace" camera trickster of the world was the French pioneer, George Melies. One of the earliest tricks he discovered was that of stopping the camera, removing some person or object from the scene, replacing it with another, and continuing the shot which, on the screen, gave the illusion that the first object magically changed into the second.

According to tradition, he discovered this by accident. Filming traffic one day in Paris' Place de l'Opera, his camera jammed. He adjusted the difficulty and continued the scene a few moments later. On the screen he was electrified to see an omnibus—which had been in front of his camera when the jam occurred—suddenly metamorphose into a hearse. And another camera-trick was born—probably the only one to arrive in such a doleful vehicle!

Pessimistic Pioneer

The French film pioneer Auguste Lumiere, who shares with Thomas A. Edison the honor of being the father of 35mm. movies, is said to have replied to an enthusiastic youth who offered to buy his invention in 1895, "Young man, you should be grateful my invention is not for sale; it would undoubtedly ruin you. It may be exploited for a certain time as a scientific curiosity, but apart from that it has no commercial future whatever."

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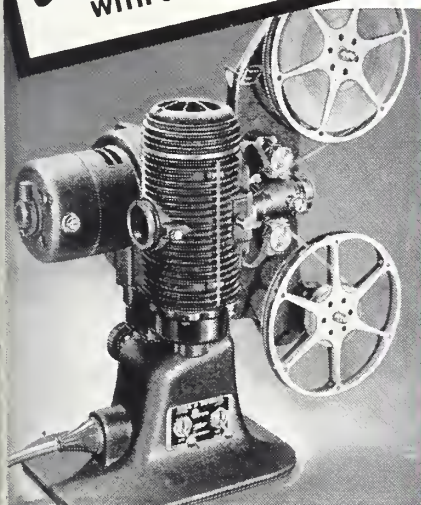
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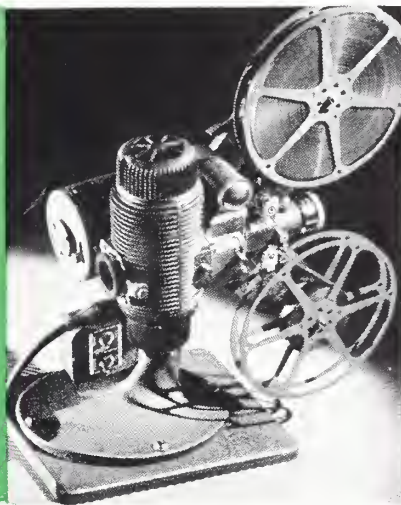
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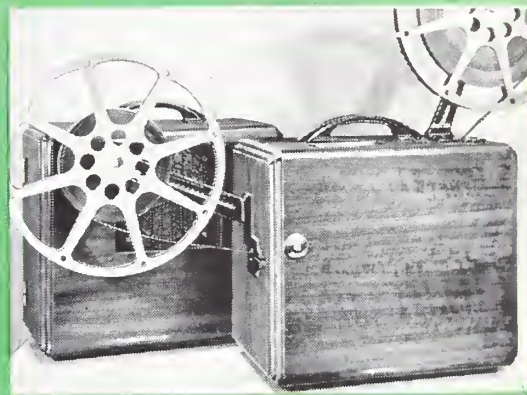
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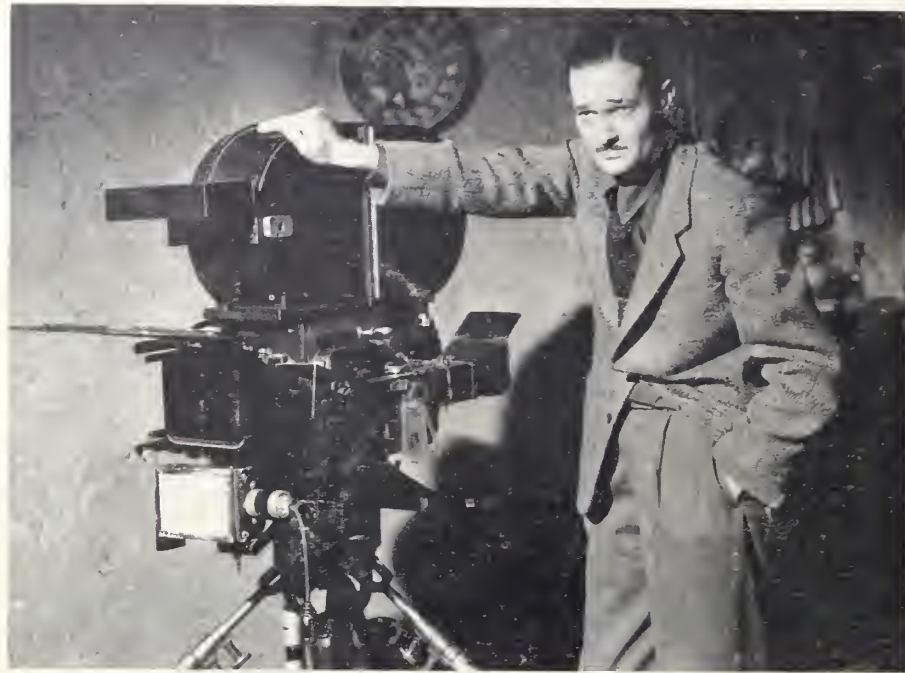
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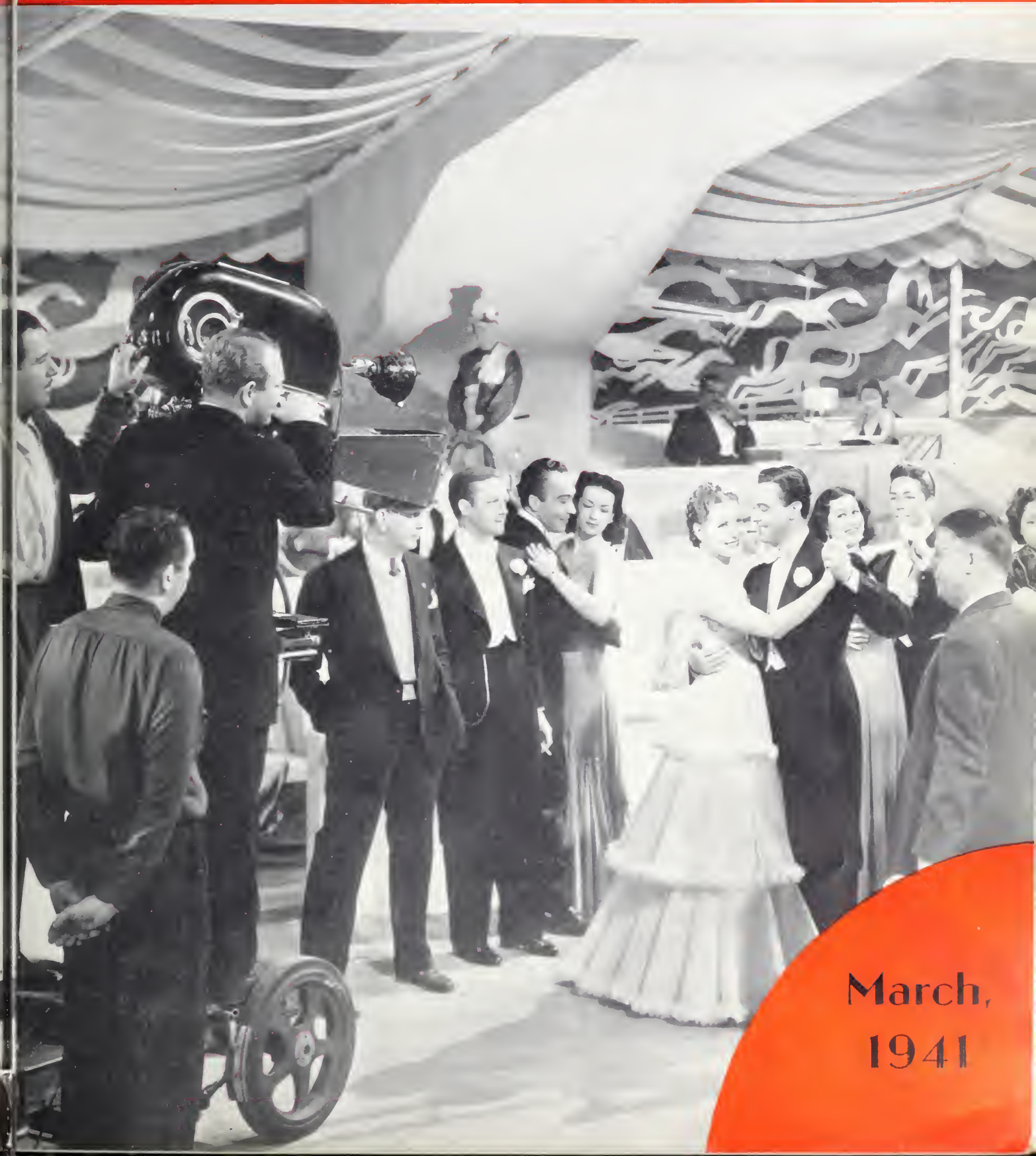
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March,
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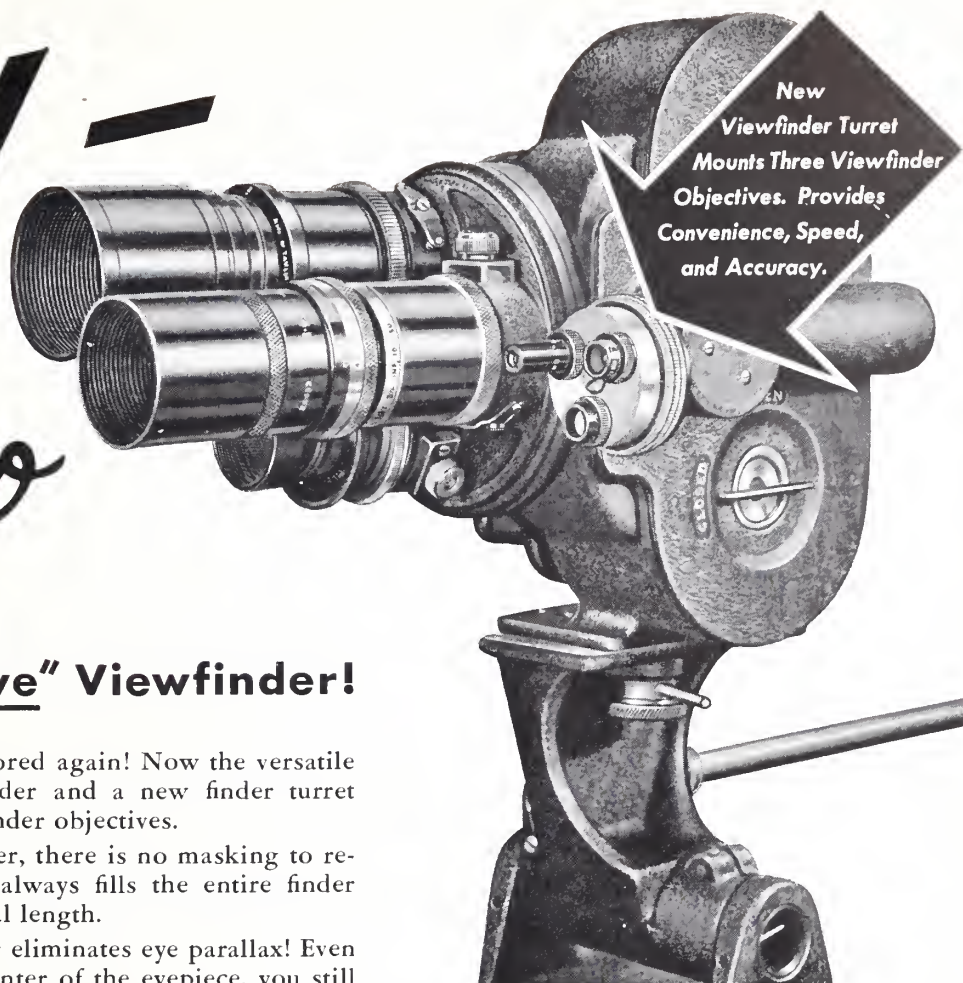


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March, 1941

No. 3



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The Front Cover

The cover this month shows director of photography Roy Hunt, A.S.C., visible under camera's matte-box, filming a dancing scene for RKO's "They Met In Argentina." Note use of small floodlamp directly over matte-box, and use of small dolly which permits camera to "dance" with the actors. Photo by Gaston Longet.



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Entered as second class matter November 18, 1937, at the postoffice at Los Angeles, California, under the Act of March 3, 1879.

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GEORGE BARNES WINS 1940 ACADEMY AWARD

TO George S. Barnes, A.S.C., goes the distinction of having been selected by his fellow members of the camera profession as the foremost director of photography for 1940. At the Thirteenth Annual Awards Banquet of the Academy of Motion Picture Arts and Sciences, Barnes was proclaimed the winner of the 1940 Academy Award for the year's best black-and-white cinematography, in recognition of his skill in filming "Rebecca." Premiere honors in the color division went to Georges Perinal, Europe's foremost cinematographer, for "The Thief of Bagdad."

Voting on these Awards was, as usual, confined to members of the camera profession. Competition was, if possible, even more hotly contested than in previous years, ten final nominations being selected in the monochrome division, and six in color, from a field open to every feature production released during 1940.

A welcome departure from the previous tradition of having these Awards bestowed by a disinterested and usually more or less inarticulate technician or executive was the Academy Committee's decision to entrust the presentation of the Cinematography Awards to one who from personal experience could speak feelingly of the true value of a great cinematographer's mastery of the art and science of cinematography—an actress—and no one could have more graciously represented her profession than did the lovely Rosalind Russell.

In presenting the Cinematography Awards, Miss Russell charmingly summarized the players' appreciation of the cinematographer when she said, "I feel honored indeed in being permitted to present the next two Awards. They are a happy composite of the Arts and Sciences, and every actress appreciates their importance, for without these artists no picture could be made, regardless of the cast, the director, writer or producers.

"It is only fitting that I tell you that our cinematographers are among the greatest artists of the screen. Their sensitive feeling, sense of composition, and their uncanny skill in arranging lighting effects help every artist to give a better performance and to look, as we ourselves know all too well, like in real life we don't. The technical skill of these gentlemen is positively uncanny, and their ingenuity in placing their cameras and keeping them participating in the action of various scenes is likewise worthy of commendation.

"There are two Awards for Cinematography with which I am concerned tonight. One is for black-and-white, the



other for color. The Cinematographers' branch of the Academy has viewed many, many pictures in selecting its nominees. The following Awards have taken weeks of viewing for nomination and selection, which at the hands of rival—if friendly—camera artists speaks in glowing terms of the outstanding attainments of the ten men nominated for this year's honors and especially for those who receive the two Awards."

Barnes' victory is richly deserved, and unquestionably popular with his fellow cinematographers. A member of the American Society of Cinematographers almost since its inception, Barnes, despite his youth, has for more than two decades been one of the industry's outstanding camera-artists, with an imposing array of notable cinematographic achievements to his credit. In "Rebecca" he had the acknowledged advantage of being associated with a picture which was more than ordinarily distinguished in every department—it received Award nominations in no less than nine other categories, being adjudged the year's outstanding production, and receiving nomination as well for actor performance, actress performance, supporting actress performance, direction, screenplay-writing, film editing, black-and-white art direction, and original musical scoring—but it was Barnes' own brilliance which gained him the Award for the year's best cinematography.

Camerawork of true Academy Award calibre demands perfection in not merely one phase of cinematography, but in every one of the many factors which go

to make up a well-photographed production. It must begin with outstanding mastery of photographic technique and lighting, and a technical and artistic consistency which is difficult, indeed to obtain amid the complexities of modern production. The players must be presented favorably. Pictorial composition must achieve and maintain outstanding heights of artistry. And throughout all this, the visual mood of the production as a whole and of each sequence and scene must be perfectly attuned to the dramatic and emotional mood of the production itself.

All of this George Barnes did in photographing "Rebecca." On the strictly technical side, the production showed unusual technical skill under a remarkably wide range of conditions, ranging from high-key exteriors and interiors to the most sombrelly dramatic of low-key interiors and night-effects, with fog sequences and a spectacularly-handled fire sequence for added measure. Yet despite the great range of visual keys and effects, "Rebecca's" camerawork evidenced a smooth consistency which was exceptional, even when considered in comparison with the other notable films with which it competed. Such details as source-lighting, continuity of diffusion, camera-movement and the associated details of operative camerawork were handled in exemplary fashion.

The players—as is usual with Barnes at the camera—were exceptionally well photographed. In his treatment of Joan Fontaine, he faced a problem which could very easily have been mishandled to the detriment of her outstanding performance. At the start of the picture, she was introduced as an ingenuous young girl. There followed courtship, marriage, introduction into new and unaccustomedly splendid surroundings, succeeded by morbid persecution which drove her to the verge of insanity. Such a part is obviously exacting, and one which can be greatly aided by delicately-attuned camerawork; yet at the same time, such treatment overdone could shackle the finest performance. Barnes' sympathetic camera-treatment unquestionably aided Miss Fontaine in the many delicately-shaded emotional transitions of her role which won for her nomination among the year's outstanding actresses.

Barnes' camerawork was beautifully pictorial throughout almost every scene in "Rebecca." Regardless of setting or dramatic mood, there seemed scarcely an inch of film in the production which was not a well-nigh flawless example of composition and pictorial lighting. The majority of the settings were large and impressively sumptuous. Brought to the screen through Barnes' lens and lighting, they gained in richness.

Yet in no instance was mere pictorial effect permitted to interfere with the dramatic requirements of the story. As has already been indicated, the action covered a wide range of moods; but from the opening shot, a sense of subtle foreboding dominated, even in the lightest and most highly-keyed of the introduc-

tory sequences. This visual overtone of impending tragedy was subtly—almost imperceptibly—built up scene by scene until the climatic action was portrayed in a virtual crescendo of dramatic photography. Director Alfred Hitchcock—deservedly one of the nominees for the directorial award—has an international reputation for his skill in painting dramatic moods and building them suspensefully up to tremendous climaxes. No more thorough tribute to Barnes' skill could be paid than to say that his visual interpretation of "Rebecca's" interlaced basic and transitory moods not merely kept pace with Hitchcock's directorial interpretation of dramatic moods, but in many ways enhanced it.

In short, Barnes' photographic interpretation of "Rebecca" is the sort of thing to which his fellow cinematographers may point, as indeed they did in bestowing upon it the industry's premiere Award, as a complete example of what truly great camerawork can mean to a production.

The achievement of Georges Perinal in capturing the Color Award is unique in many ways. While Academy Awards for acting, art-direction, and the like have previously crossed the Atlantic, this is the first time in the thirteen-year history of these Awards that a European cinematographer has in open competition with American directors of photography, by their own choice, been adjudged to merit premiere honors. It seems singularly fitting, too, that the choice should fall on Perinal, who has long been rated Europe's top master of the camera, and who photographed "The Private Life of King Henry VIII," the film which marked Britain's rebirth as a major film-producing centre. It seems significant, too, of the ties of professional fellowship which bind the cinematographers of the world together, that the cinematographers of a democratic America should send this Award to a colleague who is reported now serving with the armed forces of Britain.

In "The Thief of Bagdad," Perinal had rare opportunities to exhibit the sheer beauty of which modern color cinematography is capable: but he also had a tremendous handicap—the memories many of us cherish of the superb beauty of the original Douglas Fairbanks production of "The Thief of Bagdad," photographed in 1924 by Arthur Edeson, A.S.C. That Perinal succeeded in capturing the Award is a high tribute to his skill, and to the magic of Technicolor in the hands of an artist. Certainly few productions in recent years have exceeded this in pictorial beauty and imagination. It points the way, too, toward the heights of cinematic pictorialism which can be reached when the artistic resources of color are turned imaginatively in the direction of fantasy.

This year, the Academy drastically altered its former policy of naming the runners-up for the various Awards. In the photographic Awards, this is certainly a fortunate move, for the various nominees were so closely matched, and of



George Barnes, A.S.C., receives the Academy Award Statuette from Rosalind Russell. Photo by Pat Clark.

such a uniformly high order, that it would be most unfair to single out any one or two as second and third best. In the monochrome division, the nominees included James Wong Howe, A.S.C., for "Abe Lincoln in Illinois;" Ernest Haller, A.S.C., for "All This and Heaven, Too;" Charles B. Lang, Jr., A.S.C., for "Arise, My Love;" Hal Rosson, A.S.C., for "Boom Town;" Rudy Mate, A.S.C., for "Foreign Correspondent;" Tony Gaudio, A.S.C., for "The Letter;" Gregg Toland, A.S.C., for "The Long Voyage Home;" Joseph Valentine, A.S.C., for "Spring Parade;" and Joseph Ruttenberg, A.S.C., for "Waterloo Bridge." Nominees in the color group included Oliver T. Marsh, A.S.C., and Allen Davey, A.S.C., for "Bitter Sweet;" Arthur Miller, A.S.C. and Ray Rennahan, A.S.C., for "The Blue Bird;" Leon Shamroy, A.S.C. and Ray Rennahan, A.S.C., for "Down Argentine Way;" Victor Milner, A.S.C. and W. Howard Green, A.S.C., for "Northwest Mounted Police;" and Sidney Wagner, A.S.C., and William V. Skall, A.S.C., for "Northwest Passage."

For only the fifth time in the thirteen-year history of the Academy Awards, the Academy's most jealously-guarded award for Scientific or Technical Achievement, was bestowed. This Award, which may be granted or withheld at the option of the Committee, was given jointly to Grover Laube, Daniel B. Clark, A.S.C., Robert W. Stevens and the late Charles Melvin Miller for their joint de-

velopment of the Twentieth Century Silenced Camera (see AMERICAN CINEMATOGRAPHER for September, 1940) which, as the Academy citation stated, is "a completely new development in motion picture camera engineering, and gives motion picture production the flexibility and freedom of operation enjoyed prior to the advent of sound." A Certificate of Honorable Mention in this same classification was also issued to Anton F. Grot and the Warner Brothers Art Department for the design and perfection of the Warner Brothers Water Ripple and Wave Illusion Machine which "—is a mechanical device for creating the illusion of rippling water, permitting wide latitude in the production of marine scenes and water effects within limited confines of any stage, thereby securing natural results under controlled conditions."

Other of the Academy's Technical Awards included: Special Effects, to Lawrence Butler (photographic) and Jack Whiting (sound) in "The Thief of Bagdad;" Sound Recording, to Douglas Shearer, A.S.C., the special-process cinematographer who turned recording engineer, and the MGM Sound Department, for "Strike Up the Band;" Art Direction (black-and-white) to Cedric Gibbons and Paul Groesse for "Pride and Prejudice;" and a newly-created Award for Art Direction in color to Vincent Korda for "The Thief of Bagdad;" and Film Edit-

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PUTTING NATURALNESS INTO Modern Interior Lightings

By ARTHUR MILLER, A.S.C.

FOR many years we cinematographers have been rather boastfully telling ourselves and others about the "natural" light-effects we were obtaining in our interior scenes. But it seems to me that for the most part we were only fooling ourselves; only within the past year or so could we say with any degree of honesty that we were really creating natural lightings. Previously, while our ideas and intentions were of the best, technical limitations made it utterly impossible to do more than approximate most of the natural effects we wanted.

When we had only relatively low-speed emulsions to use, it is only natural that all interior lightings had to be more or less artificial. The distorting factor was of course the high illumination-level necessary to produce an exposure on the film. Consequently, we had to use our light, so to speak, in large packages. No matter how we tried to play our lighting for source-light effects, the actual illumination had to come from a host of high-powered lamps lining the set on the overhead lamp-rails and hemming in the actors on the stage floor. We were forced to paint our pictures, therefore, with an over-large brush which was incapable of giving us the delicate touches needed for truly natural effects. In innumerable instances, the light-sources powerful enough to produce a photographically discernable light-effect would be so bulky that they could not be crowded into the physical space from which a beam must shine to produce that effect, while a unit small enough to be used at that point—even if such units had been available—would be too low-powered to give any photographic effect. As a result, we compromised, and the result, inevitably, was artificial-looking.

Today, on the other hand, we have modern high-speed emulsions and in some instances, coated lenses as well, so that we can use vastly lower and more normal light-levels. Because we can use less light, we can employ it in smaller packages. Where a few years ago the standard lighting unit was a spotlight fitted with a 1000-Watt or 2000-Watt globe, today in most studios the 500-Watt baby spotlight is becoming more and more the standard set-lighting unit. And within the past eighteen months an even smaller lamp—the tiny

150-Watt "Dinky Inky"—has been developed, and proved itself invaluable. Before the days of fast film, such a lamp would have been too absurdly small to have any practical value. Today, it has become the fine brush by which we can at last paint our precision light-effects with the small, delicate brush-strokes we have so long needed.

For practical illustrations of some of the methods of using these new-day small lamps for precision lighting, I have turned to specific scenes from some of my own recent productions. In using them, I am fully aware that other cinematographers may well have even more striking examples of these methods of lighting; I do not wish to slight them, but I am of course most familiar with the scenes I have lit and photographed myself.

Figure 1 shows a scene from "The Mark of Zorro." In lighting this scene there were three paramount considerations. First, we must make it logical that the face of the pseudo monk, actually "Zorro" (Tyrone Power), should remain darkly invisible to the heroine, Linda Darnell; yet at the same time, when the "monk" turns during a later phase of the action, his face must be visible to the audience. Second, Miss Darnell must be so lighted as to present her beauty attractively. Third, we must light the set itself in such a way as to be compositionally attractive, and to make the lighting on the two people believable.

The accompanying plan shows how this scene was lit using three 500-Watt Baby Keglights and six 150-Watt "Dinky Inkies." Baby Keg No. 1 provided the key-light. It not only illuminated Miss Darnell, but also provided a logical reason for keeping Power's face heavily shadowed beneath his monk's cowl. Baby Keg No. 7, placed high on the lamp-rail, provided the necessary back-lighting on Miss Darnell and on the railing behind her, to separate them from the background. Baby Keg No. 6, also on the overhead lamp-parallel, provided additional top-backlight on set and players from this necessarily important angle.

Dinky Inkies Nos. 2 and 3 were concealed behind the flowers on the altar in the background, and were directed upward along the wall. It will be noticed that their beams fall *in front of* the candlesticks at the altar, throwing

their shadows against the wall—a logical and necessary effect, since these candles were not lighted. On the other hand, Dinky Inkies Nos. 5 and 5, which were concealed behind the flowers at the smaller altar, cast their flooded and diffused beams on the wall *behind* the candlesticks and on the statue. This again is logical, for these beams simulate the natural, visual effect of the light from these lighted candles. Now that we can use these small lamps, which can be concealed so easily within the scene, we can at last get away from the unnatural method of creating such lighted-lamp effects by means of a concentrated beam from a spotlight on the opposite lamprail, which inevitably defeats its purpose by also casting on the back-wall the shadow of the light-fixture which is supposed to be producing the illumination! Dinky Inky No. 8 performs a similar service for the candles before the figure directly behind Miss Darnell, while Dinky No. 9 completes the lighting by providing a soft "filler-light" in that corner of the set.

Figure 2 is another candle-light scene from "The Mark of Zorro." In this, the problem was to provide a convincing effect of candle-light (with a trace of waning daylight outside the window in the left background) and yet provide the necessary illumination for the action—melodramatic swordplay—and to strike the correct visual mood for this type of action.

Again the key-light was a 500-Watt Baby Keglight (No. 1) shining across the table and strongly illuminating the frightened man in the chair. It also served to illuminate part of the back-wall behind him, and to throw upon it a pictorially strong shadow of man and chair. Baby Keg No. 2, placed high on the lamp-rail, served a similar purpose for the masked swordsman, "Zorro," and created a strong highlight on the white back-wall, against which his dark garments stand out prominently.

The alcove in the background was illuminated by lamp No. 3—a heavily-silked broad—while the effect of pale sunlight coming through the window in the background, and projecting its shadow-pattern on the far wall at the left, was produced by a heavily-diffused arc spotlight placed outside the window.

It will be obvious that since "Zorro" stands leaning against the tall candlestick, the chief illumination on his face and figure should come from that source. It actually came from lamp No. 5, a Dinky Inkie, placed on the floor slightly nearer the camera than the candlestick, and concealed from the lens by the table and chair. Similarly concealed behind the chair, another Dinky, No. 6, with its beam flooded and diffused, completes the lighting by lightening the shadows on the corner behind the players.

In Figure 3, we have another candle-light effect, this time played in a more somberly dramatic mood, in a scene from "Brigham Young—Frontiersman." The

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Figure 1.



Figure 2.



Figure 3.

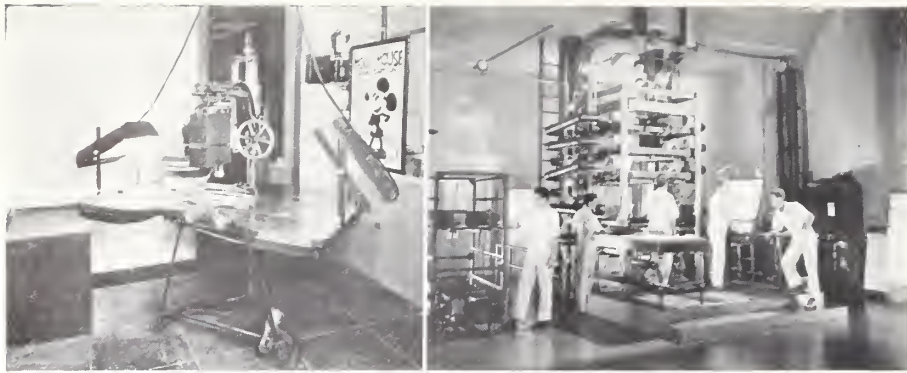


Figure 5



Figure 4





Cartoon cameras grow up: left, camera that filmed early "Mickey's"; right, today's Multiplane Technicolor cartoon camera.

GROWING PAINS

By WALT DISNEY

At the Fall, 1940, Convention of the Society of Motion Picture Engineers, the Society's Progress Medal was most appropriately awarded to Walt Disney. His informal response, elaborated into the article, "Growing Pains," appeared in the Journal of the Society of Motion Picture Engineers (January, 1941, Vol. XXXVI, pp. 30-40.) and is here reprinted because, in addition to providing most significant historical data on the amazing growth and expansion of the animated cartoon during the last twelve years, it is one of the few articles we have ever seen which fully captures the breezy spirit of one of the greatest artists of our day, Walt Disney.—Editor.

IN DECEMBER, 1938, there appeared a most interesting paper written by Dr. H. T. Kalmus describing the adventures of Technicolor in Hollywood. I have been asked to prepare an article along similar lines telling of highlights in the history of our company and animated pictures. Messrs. Garity and Ledeen have written a paper covering the technical side of our development, so I had better stay on my side of the fence and talk about animation and where I was born and about *Three Little Pigs* and what-about-the-future of the business. When I protested that all this had been written up many times before, and that such an article would be dull and of little interest, Mr. Garity said, "That's right!" and left the office with a dirty laugh.

Making this job even more difficult, I found in rereading Dr. Kalmus' paper of 1938, that he had "lifted" semi-philosophic thoughts which I had planned to put in my article. I accuse him of what might be called "prophetic plagiarism," and I resent it, too, because I have so few semi-philosophic thoughts.

For instance, Dr. Kalmus starts off by stating that his developments in Technicolor have been an adventure, and adds the Webster definitions of *adventure*: *chance of danger or loss; the encounter of risks; a bold undertaking; a remarkable experience, a stirring incident; a mercantile or speculative enterprise of hazard*. Now, I had planned to start my

paper with this definition and continue with the statement, "My business has been a thrilling adventure, an unending voyage of discovery and exploration in the realms of color, sound, and motion." It has been that! And it has been a lot of fun and a lot of headache. The suspense has been continuous and sometimes awful. In fact, life might seem rather dull without our annual crisis. But after all, it is stress and challenge and necessity that make an artist grow and outdo himself. My men have had plenty of all three to keep them on their toes. But how very fortunate we are, as artists, to have a medium whose potential limits are still far off in the future; a medium of *entertainment* where, theoretically at least, the only limit is the imagination of the artist. As for the past, the only important conclusion that I can draw from it are that the public will pay for quality, and the unseen future will take care of itself if one just keeps growing up a little every day.

The span of twelve years between *Steamboat Willie*, the first Mickey with sound, and *Fantasia*, is the bridge between primitive and modern animated pictures. No genius built this bridge. It was built by hard work and enthusiasm, integrity of purpose, a devotion to our medium, confidence in its future, and, above all, by a steady day-by-day growth in which we all simply studied our trade and learned.

I came to Hollywood broke in 1923, and my brother Roy staked me to a couple of hundred. We lived in one room and Roy did the cooking. He was my business manager, and I didn't have any business. His job was to scare up three meals a day, and his job now is to conjure up three million dollars to meet the annual payroll. Both jobs have demanded just about the same amount of sweat, ingenuity, and magic. The main difference is that Roy sweats more red

ink now. But no matter what the future deals me, I shall consider that I have come a long way, if for no other reason than that Roy doesn't do the cooking any more.

I sold my first animated cartoon for thirty cents a foot. *Pinocchio* and *Fantasia* cost around three hundred dollars a foot. The first *Mickey Mouse* was made by twelve people after hours in a garage. About twelve hundred people are working overtime now in a fifty-one-acre plant with fourteen buildings, four restaurants, its own water system, air-conditioning, and a gentleman named Myron to massage the kinks out of my neck.

My first motion picture camera was "ad libbed" out of spare parts and a dry-goods box swiped from an alley off Hollywood Boulevard. It was hand-cranked, that camera. Even then I felt the urge to grow, to expand—I was very ambitious in those days—so we bought a used motor for a dollar to run the camera. It had once been a second-hand motor, but since that time it had seen everything and died. We had to hire a technician to make it go. We have been hiring technicians ever since. Our business has grown with and by technical achievements. Should this technical progress ever come to a full stop, prepare the funeral oration for our medium. That is how dependent we artists have become on the new tools and refinements which the technicians give us. Sound, Technicolor, the multiplane camera, *Fantasound*, these and a host of other less spectacular contributions have been added to the artist's tools, and have made possible the pictures which are the milestones in our progress.

That first movie camera now stands in all its ad lib splendor in a Los Angeles Museum. Our new multiplane cameras are two stories high and operate by remote control. But, on the whole, the basic tools and techniques of my craft had been worked out before I learned the rudiments of animation out of a book in Kansas City.

There had been animated cartoons long before motion pictures. The Stone Age artist came pretty close to animation when he drew several sets of legs on his animals, each set showing a different stage of a single movement. A Frenchman named Plateau was the first to make a cartoon move. In 1831, he invented the *phenakistoscope*, a device of moving disks and peepholes. The successive stages of an action were drawn on one disk. When the disk was spun, the illusion of motion resulted. Many similar devices were invented to make pictures move. The first animated cartoon on motion picture film was made by J. Stuart Blackton in 1906. It showed a fellow blowing smoke in the face of his girl friend. A bit corny, but not bad! *Snow White and the Seven Dwarfs* was



Twelve years' progress in animated cartoons: scenes from "Steamboat Willie" (1928), the first "Mickey Mouse," and "Fantasia," (1941).

not the first feature-length cartoon by twenty years, while the first cartoon mechanically colored dates back to 1919. The greatest single contribution of the pioneers came from Earl Hurd who invented (1915) the idea of tracing the moving parts of a cartoon on celluloids superimposed over opaque backgrounds. This great labor-saving device is still the foundation of our modern method.

The miracle of seeing drawings move was enough to enthrall the early motion picture audiences. Then, as the edge of the miracle wore off, interest in cartoons was revived by numerous series of cartoons built around the antics of stock characters. Some of these series were very popular. Whether or not these pre-Mickey cartoonists ever sat back and thought about the possibilities in the medium, I don't know. I was ambitious and wanted to make better pictures, but the length of my foresight is measured by this admission: Even as late as 1930, my ambition was to be able to make cartoons as good as the *Aesop's Fables* series.

I was knocking out a series called *Oswald the Lucky Rabbit* for Universal at the time sound exploded like a bomb under silent pictures. The series was going over. We had built up a little organization. Roy and I each had our own homes and a "flivver." We had money in the bank and security. But we didn't like the looks of the future. The cartoon business didn't seem to be going anywhere except in circles. The pictures were kicked out in a hurry and made to a price. Money was the only object. Cartoons had become the shabby Cinderella of the picture industry. They were thrown in for nothing as a bonus to exhibitors buying features. I resented that. Some of the possibilities in the cartoon medium had begun to dawn on me. And at the same time we saw that the medium was dying. You could feel *rigor mortis* setting in. I could feel it in myself. Yet with more money and time, I felt we could make better pictures and shake ourselves out of the rut. When our distributor, Universal, wouldn't give us the money, we quit. Most of our staff went over to Universal. That hurt! But I had made my Declaration of Independence and traded security for self-respect. An artist who wouldn't is a dead mackerel. Thereafter, we were to make pictures for quality and not for price. The public has been willing to pay for this quality.

Out on my own again, I looked for a

new character and hit on Mickey Mouse. The first two *Mickey Mouse* pictures were silent. We couldn't peddle them. It occurred to me that in a world gone sound-mad, since the release of Al Jolson's *The Jazz Singer*, a cartoon with action synchronized to sound would be something of a sensation. My third *Mickey*, *Steamboat Willie*, was planned with this in mind. By some miracle we managed to figure out the basic method for synchronizing sound and action that we still use. When the picture was half finished, we had a showing with sound. A couple of my boys could read music and one of them could play a mouth organ. We put them in a room where they could not see the screen and arranged to pipe their sound into the room where our wives and friends were going to see the picture. The boys worked from a music and sound-effects score. After several false starts, sound and action got off with the gun. The mouth-organist played the tune, the rest of us in the sound department bammed tin pans and blew slide whistles on the beat. The synchronism was pretty close. The effect on our little audience was nothing less than electric. They responded almost instinctively to this union of sound and motion. I thought they were kidding me. So they put me in the audience and ran the action again. It was terrible, but it was wonderful! And it was something new!

I took *Steamboat Willie* to New York and started a dreary hunt for a sound company which was not too busy or too expensive to record the sound for me. I finally made a deal with Cinephone. Theirs was a pretty punk sound system until Bill Garity redesigned it later on. But in spite of that, *Steamboat Willie* was an instant hit. It played the Colony, then moved to Roxy's. Mickey was a big shot over night. Lush offers poured in from Hollywood, but Cinephone had us nailed to a contract. A year later, in a joint deal with Columbia, we bought up the contract. Cinephone had given me a bigger picture budget than had Universal, and Columbia had upped the figure considerably again. But soon the increasing quality on which we were building our business demanded bigger and bigger advances. Columbia couldn't take it, so in 1931, we made a deal with United Artists to distribute our cartoons.

This new deal, for all practical purposes, gave us financial independence. Since then, we alone have determined how much our pictures will cost. Not

that the industry hasn't had a great deal to say about our picture costs, in one sense. Time and again, it has been said that we were crazy and would go broke. Mack Sennett claimed that we put live-action shorts out of business because they could not afford to spend the money to compete with us. The fact was the reverse. Live-action shorts could not afford *not* to spend more money if it would improve their quality. By 1931, production costs had risen from \$5,400 to \$13,500 per cartoon. This was an unheard of and outrageous thing, it seemed. And a year later, when we turned down Carl Laemmle's offer to advance us \$15,000 on each picture, he told me quite frankly that I was headed for bankruptcy. This was not short-sighted on his part. He had no way of seeing what we saw in the future of the medium.

As *Mickey Mouse* became a universal favorite and the money rolled in, we had been able to afford the time and money to analyze our craft. I think it is astounding that we were the first group of animators, so far as I can learn, who ever had the chance to study their own work and correct its errors before it reached the screen. In our little studio on Hyperion Street, every foot of rough animation was projected on the screen for analysis, and every foot was drawn and redrawn until we could say, "This is the best that we can do." We had become perfectionists, and as nothing is ever perfect in this business, we were continually dissatisfied.

In fact, our studio had become more like a school than a business. As a result, our characters were beginning to act and behave in general like real persons. Because of this we could begin to put real feeling and charm in our characterization. After all, you can't expect charm from animated sticks, and that's about what *Mickey Mouse* was in his first pictures. We were growing as craftsmen, through study, self-criticism, and experiment. In this way, the inherent possibilities in our medium were dug into and brought to light. Each year we could handle a wider range of story material, attempt things we would not have dreamed of tackling the year before. I claim that this is not genius or even remarkable. It is the way men build a sound business of any kind—sweat, intelligence, and love of the job. Viewed in this light of steady, intelligent growth, there is nothing remarkable about the *Three Little Pigs* or

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WHEN you think about natural-color cinematography you think about Technicolor — and when you think about Technicolor, you think almost as inevitably about Director of Photography Ray Rennahan, A. S. C., who for nearly twenty years has been the mainstay of Technicolor's photographic staff. Back in 1921 he photographed the first Technicolor feature ever released—"Toll of the Sea." Six years ago, in 1935, he photographed "Becky Sharp," the first feature made by Technicolor's modern three-color process. And almost exactly one year ago he received the industry's highest photographic honor—the Academy Award—for his participation in Technicoloring "Gone With the Wind." During the years between, he has specialized in color cinematography to such an extent that he has photographed or participated in photographing a great majority of the outstanding color productions made.

But if you try to single him out with some such poetic title as "the granddaddy of Technicolor cinematographers," Ray Rennahan is likely to rebel. He'll smilingly point out that at forty-five he's in the wrong age-bracket entirely for such a title. "And besides," he'll add, "I'm *not* actually the senior cinematographer in point of years with Technicolor: that honor properly belongs to

digging back into that ancient history. Technicolor and all of us who have been associated with it have come a long way in these last twenty years; but I think that all of us, from Dr. Kalmus right on down the line, are a great deal more interested in the achievements yet to be made than in anything we've done in the past.

"That's not saying we haven't made progress! Even in the past six years, since the present three-color process has been in use, we've seen changes, not only in the process itself and the results we can get with it, but in the industry's attitude toward color. Six years ago, making a color feature was an adventure, and more; to the producer it was a gamble, and to the production crew on the set it was a headache. Today the industry has learned to take color in stride. The producer knows that color, intelligently used, definitely adds to the box-office appeal of a good picture. And the production personnel on the set know they can do anything with Technicolor that they can with black-and-white—and do it more effectively because of the added element of color."

Rennahan considers his long specialization in color a definite asset. "Of course I've shot some black-and-white now and then," he remarks. "I did, for instance, when we were recently down in Mexico City on location for my present picture, 'Blood and Sand,' and some monochrome background and stock-shots had to be picked up for the studio. As a matter of fact, I've shot just enough monochrome to know I can handle it better than I ever did before, just be-

Aces of the Camera

III:

RAY RENNAHAN, A.S.C.

By WALTER BLANCHARD

George Cave, A. S. C., who, though in recent years he has been a Technicolor executive, was for many years a cinematographer—and a good one. George photographed the firm's first tests, and their first feature, too, in the quickly-abandoned additive two-color process. I came on only after the two-color subtractive process had been developed to the point of being commercially feasible, and Dr. Kalmus came to Hollywood to make a feature.

"But there's no particular point in

cause of the training I've had with color. But I'm always glad to get back to color; it's so much more satisfying.

"And," he points out, "there's a definite advantage to working as we Technicolor cinematographers do. We *do* get around! I think we get a greater variety of work and experience than almost any other group of cinematographers. It's not only that we're constantly working in different studios, on different pictures, and with different production cinem-

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MOTION pictures are fully as important to National Defense as steel! This is not the visionary statement of an imaginative publicist, but the considered opinion of a hard-headed professional soldier, Major General Joseph O. Mauborgne, Chief Signal Officer of the United States Army. And the Government is backing this opinion with action: through the Army's Signal Corps on the one hand, and the Research Council of the Academy of Motion Picture Arts and Sciences on the other, all of Hollywood's incalculable technical and creative resources are being thrown into the making of instructional motion pictures by means of which recruits for Uncle Sam's growing army can be taught the latest methods of mechanized and streamlined warfare.

"By means of these films," states General Mauborgne, "we can train soldiers at least four or five times as quickly—and much more thoroughly—than would be possible by any other method. Therefore when the passage of the Selective Service Act so vastly expanded the Army's personnel-training problems, our training-film production had to be expanded, too, to keep pace with the Army's needs. So we have turned to the motion picture industry for help; and thanks to the efforts of Col. Nathan Levinson, of the Academy's Research Council, and its manager, Capt. Gordon Mitchell, we find the industry mobilized—ready and eager to help us in any way it can.

"During the past two or three months a permanent organization for this work



Major General J. O. Mauborgne presenting Special Academy Award to Col. Nathan Levinson. Photo by Pat Clark.

MOVIES FOR NATIONAL DEFENSE

An Interview With

MAJOR GENERAL J. O. MAUBORGNE

Chief Signal Officer, U. S. Army

and

COL. NATHAN LEVINSON

Vice-chairman, Academy Research Council

has been set up. Already, the first two films have been completed and sent to Washington for official delivery to the War Department. And I think those two films speak more eloquently than I could of the way the industry is cooperating with the Army. For these two films represent Hollywood's best talent in every creative and technical department. The first picture, for example—a three-reel film on basic personal hygiene—embodies the skill of two men who have just been singled out for the industry's highest tribute, the Academy Award. It was directed by John Ford, and photographed by George Barnes, A.S.C.

"The second production—a four-reel film on health—was directed by Irving Pichel, who will also direct the third picture, the script for which is just being completed, and which will deal with military courtesies and customs. I may say we are constantly being amazed at the top-flight talent being offered us. Col. Levinson tells me that right now we have offers from \$5,000,000 worth of the industry's greatest directors—that is, \$5,000,000 worth if we had to pay their accustomed salaries—to donate their work gratis for future films. Among them may be mentioned such men as Frank Capra, Mervyn LeRoy, William Keighly, William Wyler, and many oth-

ers. It is the same in every other department of production."

Everything about the way these pictures are being made stands immensely to the industry's credit. Some industries consider themselves extremely patriotic if they accept an \$80,000,000 order from the Army; the motion picture industry is literally giving cooperation and talent no money could buy. Col. Levinson explains that virtually all of the essential and most expensive services—producers, directors, writers, directors of photography, and the like—are in one way or another being donated. Many of the normally high-salaried individuals are donating their services completely. In other instances, where essential individuals like directors of photography, recording engineers, and the like, are under contract to a studio, the studio donates their services. Others, not under contract, have agreed to work for scale.

"We of the Research Council do not propose to see any profiteering in the making of these pictures," he states, "and I am delighted to say that every individual and organization in the industry is cooperating fully. The top-salaried workers are naturally in a position to donate their services, and I am sure many of the lower-salaried people would be equally eager to donate theirs: but we have agreed that we do not want to make any of these lower-salaried workers suffer economically for their patriotism."

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INNOVATIONS IN NEW Williams Laboratory

LATEST entry in the competition for Hollywood's picture, sound-track and positive film processing is the new and enlarged plant of the Williams Film Laboratory. Under the direction of veteran laboratory and special-process expert Frank Williams, this organization has for a number of years enjoyed an enviable reputation for precision-quality work in the comparatively limited field of specialized sound-track and process-plate processing. The new plant's facilities have been enlarged to include picture negative, daily and west-coast release printing on the same quality basis, with further possibilities of expanding to handle national release-printing on a large volume-high quality basis if necessary.

Occupying new quarters at 1040 North McCadden Place, Hollywood, the plant is now in operation with a capacity of 100,000 feet of picture-negative, 100,000 feet of sound-track negative, and 250,000 feet of positive per day, making a total daily output of nearly half a million feet of film, all processed, according to Williams, to the same exacting standards of precision and quality for which the plant's previous work was renowned. Applying these methods to the processing of picture negative, Williams states, results in a combination of exceptional shadow-detail and fine-grain quality which has an effect comparable to that of the new "coated" lenses in apparently increasing screen definition and brilliance without exaggerated contrast. Applied to sound-track processing, the result is stated to be better definition in variable-area track, and finer gradation in variable-density recordings, giving in each case improved tonal characteristics with notably reduced distortion. Comparative tests made by sound experts in several studios indicate a truly surprising increase in frequency response and volume-range for track processed under these conditions.

Film is processed in a battery of four developing machines of special design. These embody a positive drive and what is stated to be the highest degree of agitation employed in any commercial processing unit. The developing solutions are applied to the film in a unique manner: instead of relying upon immersion combined with circulatory turbulence as is customary, the developer is sprayed upon the film through a series of concentrating jets. The result, according to Williams, is that the developing agents, being constantly replaced by fresh solution in direct contact with the emulsion, act with greater uniformity and power, and with less retardation by the oxidation by-products which ordi-

narily accumulate upon the surface of the film. Tests on both picture and sound-track negative indicate that this method of processing eliminates the usual directional streak-effects to a remarkable extent.

Daily prints are made by a battery of Bell & Howell printers, with release-printing done on the efficient Bell & Howell production printers.

Processing is, as might be expected, safeguarded by exact sensitometric control methods. In this department, the new photoelectric densitometer designed by C. S. Franklin, who heads the firm's sensitometric staff, is employed. Substituting the untiring eye of a photoelectric cell for visual observation, this instrument eliminates a frequent cause of error in the use of conventional densitometers—visual mis-judgment and visual fatigue. Instead of relying upon visual comparison of the density to be measured with a known standard density, the Franklin instrument operates by passing a standardized beam of light through the density to be measured, after which the beam is focused on a photocell. The electrical indicator is calibrated to read directly in terms of photographic density. Thus, according to its designer, this densitometer is both more accurate and more quickly operated than conventional instruments.

Such usual auxiliary services as cutting-rooms and film-storage vaults are of course provided. It may be mentioned that the cutting-rooms are among the roomiest and best-illuminated of their kind we have seen. The negative-vaults, according to Williams, are the most capacious in any commercial laboratory on the west coast.

The plant's projection-theatre is without doubt one of the finest in the industry. The latest type Simplex projectors, equipped to handle either composite or separate sound and picture are installed, with high-intensity arc lamp-houses and the latest push-pull sound-reproducing equipment. The theatre itself is of ample seating capacity for most review purposes. Its acoustic treatment is unique, and is the result of joint design collaboration between M. A. Rittenger, theatre-acoustic expert of RCA, and acoustic engineer Don Loye of ERPI. With the exception of the back wall, which is acoustically dead, consisting of a 4-inch concrete foundation-wall upon which is a 4-inch layer of rock wool, surfaced with a ¾-inch application of acoustex, there is not a single flat wall-surface in the room, and no parallel surfaces whatever.

The front wall consists of three curved bays: the central one forms a convex

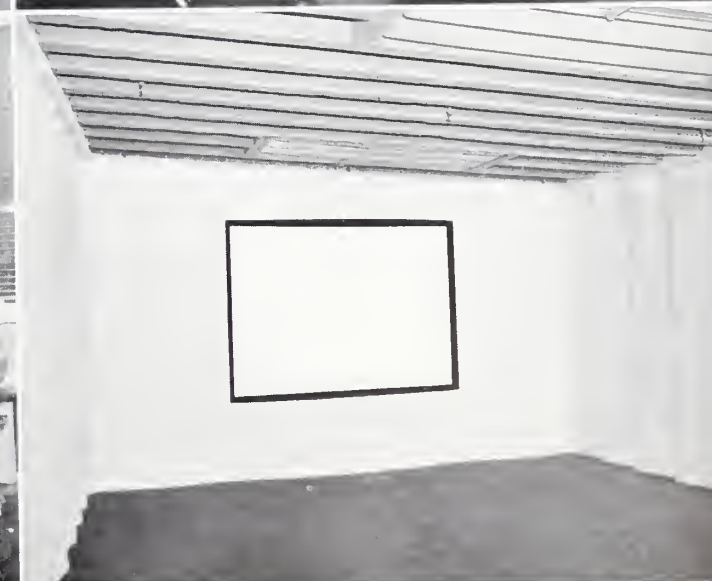
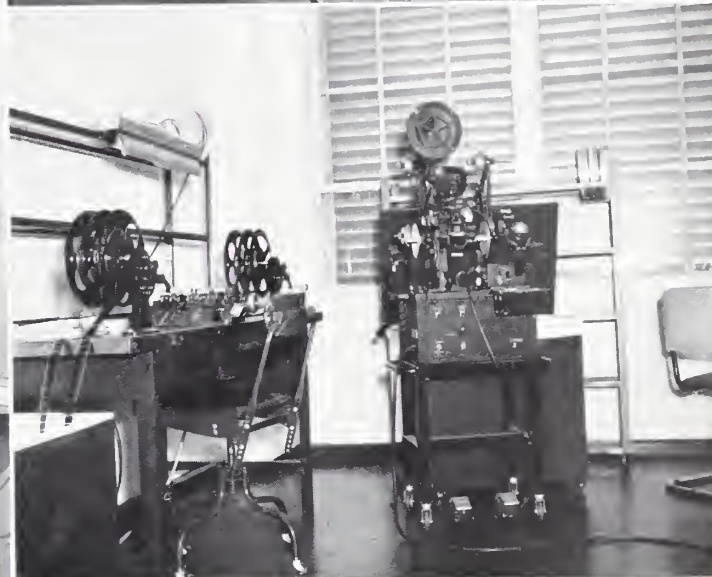
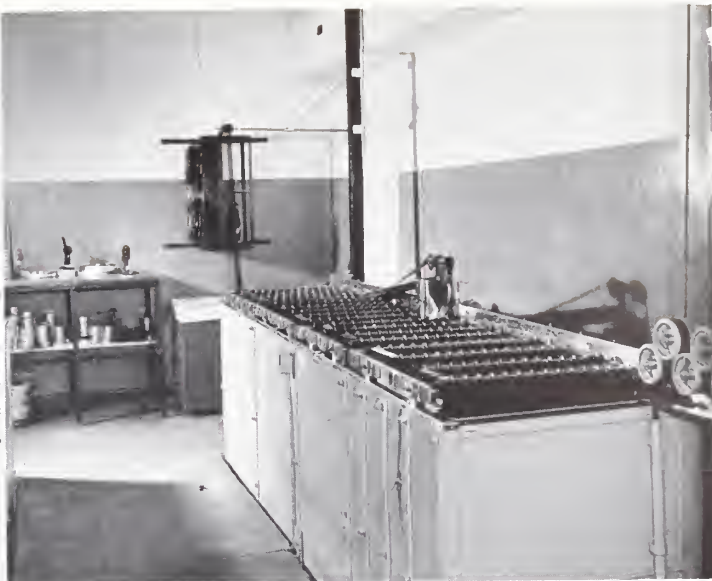
curved area the width of the screen, while the two side-panels are also convex, but of lesser curvature. Treatment of the side-walls carries out a similarly curviform plan. Each side-wall surface is divided into a number of wave-formed convex bays, increasing in width from front to back, and the two walls taper inward toward the screen in such a way that at no point in the room are there two parallel surfaces which can reflect sound to each other. The acoustic efficiency of this wall-design is increased by the fact that these walls are surfaced with unpainted stucco, in which the coloring pigment is contained within the material itself, rather than applied as an outside coat. The ceiling is fairly hard-surfaced, of beamed construction.

The result is what acoustic experts have stated to be the most acoustically perfect projection-room in the industry. Sound-waves appear to travel to every point with uniform quality, and with neither dead spots or reverberation-points. Acoustic distortion traceable to room conditions is reported to have been almost completely eliminated. According to reports sound engineers from several major studios have studied the room with an eye toward reproducing its acoustic treatment in several projected new studio review-rooms, and in at least one studio a recording stage has been reconstructed to provide similar acoustic conditions for making symphonic recordings.

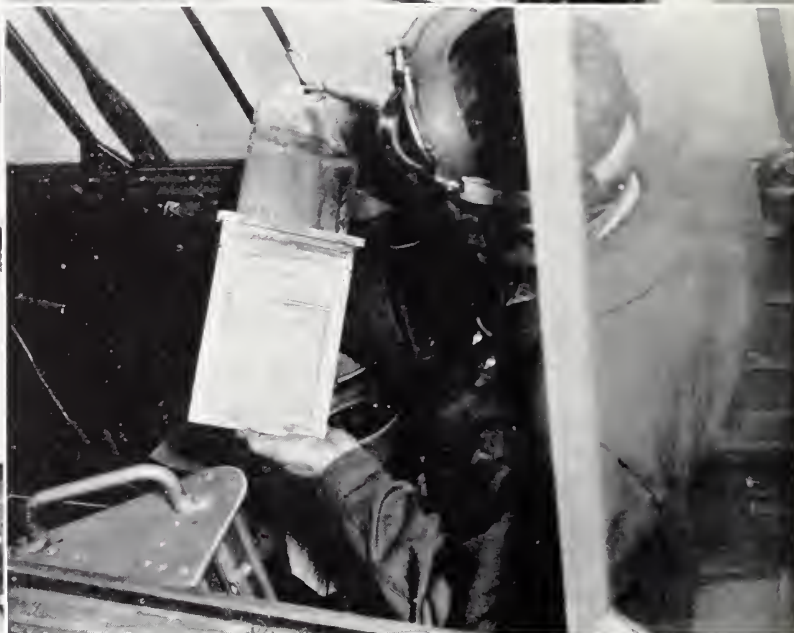
Another interesting feature of the new plant is that its air-conditioning installation makes use of the first electro-matic air-cleaner to be installed in a film-processing plant. This cleaner, in place of the conventional methods of filtering, employs a novel dual-action unit to clean the air. As the air enters the housing, it passes through a slowly moving belt consisting of metal vanes coated with heavy oil, to which the heavier dust-particles adhere. As the belt revolves, the vanes are immersed in an oil-ank in which the accumulated dust is automatically removed, and a fresh coating of clean oil adheres to the vanes. As the vanes rise on the opposite side, each pair of adjacent vanes is connected to opposite poles of a 10,000-Volt direct-current circuit, so that adjacent vanes carry a heavy electromagnetic charge of opposite signs. The incoming air, after having been deflected past the descending, oil-covered vanes which absorb the heavier dust-particles by adhesion to the oil-coating, is directed past these charged vanes, which by electromagnetic attraction rid it of the lighter dust-particles. This type of air-filter is stated to be automatically self-cleaning, and highly efficient.

The Williams organization, according to Williams, is perhaps the most experienced in the industry in the handling of new, fine-grain positive and recording emulsions. The plant began its operations, he points out, as an adjunct to the Williams special-process photographic

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Top: Two views of the battery of developing-machines. Center, left: sensitometric control department; right, cutting-room. Bottom, left, film-cleaning and polishing department; right, projection theatre; note curvature of side-walls. Photos by Pat Clark.



Developing and printing at 300 mph. Top, left, making the picture; right, developing negative in plate-holder. Middle, left, checking printer; right, inspecting print (in holder) during fixation. Bottom, left, tossing metal container from plane; right, finished print—less than five minutes from exposure to print! Official photos, U. S. Army Air Corps

UNCLE SAM'S 300 MPH FLYING LABORATORY

By REED N. HAYTHORNE, A.S.C.

Washington Staff Correspondent

WHEN the U. S. Army Air Corps orders pictures, speed is the watchword in more ways than one. Today the Army's flying photographers can expose, develop and print tactical stills, while streaking through the air at 300 mph. on observation missions. Officials of the Air Corps Photographic Research Laboratory at Wright Field, Dayton, Ohio, under the direction of Major George W. Goddard and Project Engineer John Hancock, have devised methods of photographing, developing and printing a picture in an airplane so speedily that the finished print may be dropped from the airplane within four or five minutes of the time the shutter clicks.

The military advantages of this quick photography process will be obvious in these days of mechanized attacks and blitzkriegs. Suppose a ground-troop concentration in the field is expecting an attack from an enemy on its right flank. Suddenly the commanding general is advised that the enemy is concentrating mechanized units on his left flank for a surprise attack at that point. Prompt, accurate information as to the truth of this report is vital. And it must be in his hands quickly, so he can dispose his troops to meet the new threat before the blitz has time to develop!

Radio directs observation planes to obtain quick photos of the enemy's dispositions in the questioned area. Within a matter of minutes the finished prints are dropped at field headquarters, and the general has definite proof, substantiating or disproving the second report. Using the Air Corps' equally new flash-bomb technique, these photos can even be brought back on the darkest night.

Using the quick photography method, Air Corps cameramen can also supply a definite photographic record of the effectiveness of long-range artillery within a few minutes after a salvo has been fired. And the photographers also can locate targets far out of sight, but within range of the big guns, by spotting them in photographs in relation to known landmarks.

Most important factors in the Air Corps quick photography method are: (1) a compact processing tank with four compartments which may be installed in

any Air Corps tactical ship larger than a single-seat pursuit plane; (2) a special type of cut-film holder designed by the photographic laboratory which is used continuously as a camera holder and as a processing holder; and (3) a small but highly efficient printer operated in a light-proof zipper bag.

The Air Corps has tried the direct positive or reversal method of photography in which the picture is taken on a piece of photographic paper, which when developed, itself becomes the finished print. But the Air Corps experts have discarded this method, at least for the time being, and have gone back to the conventional method of exposing a negative and then transferring the image to a positive print.

It was found that the direct positive was extremely limited in its emulsion latitude. It could be used only under favorable daylight lighting conditions, and even then the exposure had to be just right. With either a bad overexposure or underexposure, the picture was lost.

Now the Air Corps photographers frequently have to work under unusually difficult conditions when they want early morning or late evening pictures. Wars don't wait for ideal picture-making weather-conditions! So the research men have returned to the orthodox method. But they are still experimenting with direct positives in the hope of producing an emulsion which will make the direct positive process usable under wide latitudes of lighting conditions and exposure.

Let's follow Wright Field cameramen and see how they make a "quick photograph."

They take off and fly high over an airport which they have selected as their pictorial objective. The pilot swings the plane over the objective and the cameraman "fires" his 20- or 40-inch telephoto lens camera, designed for making oblique intelligence photographs. Incidentally, he doesn't have to focus his camera. He is far enough away from the ground so that the camera has a fixed focus, at infinity, except for infra-red film where a special infinity focus is required. So all he has to worry about is exposure and lens opening.

As soon as the exposure is made,

he takes the holder from the camera and immerses it in the first section of the tank. He pulls the slide up out of the holder so that it sticks up above the tank and uses this as a handle to agitate the holder in the tank so that the negative is fully treated in the developer for one minute.

Replacing the slide, he removes the holder and transfers it to the second section of the tank, where it gets the same agitating process for 15 seconds, in a stop bath solution. The negative then gets 75 seconds in the third tank, a fixing solution, and a 5 second water rinse in the fourth tank.

Incidentally, each section of the tank has a nonspill lid, so that the plane can do any ordinary maneuvers without spilling chemicals. And the tank is jacketed in an insulation material one and one-half inches thick, which is electrically heated to a constant temperature of 75 degrees.

After its rinse, the negative is quickly sponged off with a rubber squeegee, to remove extra moisture, and is then ready for printing.

It is placed on the printer contact surface, and covered with a sheet of transparent material, to keep the printing paper from getting wet. The sensitized paper is taken from a container and placed over the negative, and the lid is brought down to make the exposure.

To the trained photographer there is ordinarily nothing unusual about this procedure—but it must be remembered that the quick-work photographer has his arms thrust into that black zipper bag, and is doing everything without seeing what he does—and this with his laboratory moving at 300 miles per hour.

The printer gets its exposure light from a single bulb which is near the source of contact but which is shielded so that it throws its light down to a reflector before the printing surface. The light which comes back up to the plane of contact is in evenly diffused parallel rays so that there is no chance of unequal light distribution.

As soon as the print is made, the paper is placed in a holder similar to that used for the film, and is speeded through the same four processes of de-

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THROUGH the EDITOR'S FINDER

ONE of the worst disadvantages under which we who make motion pictures labor is the fact that producer and consumer must necessarily be so far separated. Editorial writers in the industry's trade papers have repeatedly urged upon the industry's executives, directors, stars and scenarists the importance of getting away, at least occasionally, from their usual haunts in Hollywood and New York, giving themselves a chance to meet and mingle with the great audience for whom we make our pictures, learning at first hand what the public wants.

To this writer's mind, it is fully as important for those of us concerned even remotely with the technical aspects of production to find out *how* that audience is being given our work. For we here in Hollywood live in our own little *Shangri-La* of technical perfection. When a major studio makes a picture, endless pains are taken to make sure that every tiniest technicality of photography and recording is perfect. When we see the completed product, we see it almost invariably amid the technically perfect surroundings of a studio projection-room, or one or another of the better-equipped theatres of the Los Angeles area. We see a specially made Hollywood print, given the finest of projection and sound reproduction.

But—what happens when that same picture goes into release? *What* and *how* does the paying public see it?

Recently we got a partial answer to that question. It wasn't particularly flattering—but it merits the attention of all of us.

We've had as our guest in Hollywood a top-flight commercial cinematographer from one of the large middle-western cities. He's a man who knows photography, sound, prints and projection. During his stay we took him to several studio previews, and on one occasion, we visited one of Los Angeles' better neighborhood theatres to see a film both of us had previously missed.

As we came out of the theatre, he turned to us and remarked feelingly, "You fellows who live in Hollywood don't know how lucky you are. We'll see that same production back home—but it won't be the same picture at all. You tell me this is just an average neighborhood theatre—but let me tell you something: back home we don't have such projection or sound-reproduction even in our biggest and best first-run theatres! We can get sound like that in our radios—but not in our theatres; we never see such fine projection, and the prints—well, the prints our first-run houses get can't compare with what I've seen in this third-run theatre in Hollywood. What we get at home is just a pale shadow of the picture and sound you people make for us. Of course I know it just isn't in the cards

for us to get clean, fresh, flawless prints like the one I saw previewed at the studio the other night—but I wish that just once we could see a print like the one I saw tonight, projected the way I just saw it! We're only getting about a third of what we pay for when we go to the box-office at home."

It seems to us that we in Hollywood are getting only a fraction of what we pay and are paid for, too, when our product reaches its customers under such conditions. Projection and theatre matters are of course out of the sphere of this publication. But it would seem that we in Hollywood's technical community have a vital interest in the sort of prints that carry our wares to the public.

More recently, in chance conversation with two others—a Hollywood cinematographer and a laboratory expert—we added further potent thoughts along the same line. The cinematographer told us of being on location and seeing a release print of one of his own pictures. He had seen the master print in the studio, and he could hardly recognize his own work in the release-print he saw in the field. It was worn, of course, but he could make allowances for that. What he could not understand was the obvious carelessness with which the print had been made. Despite all the care which he and the Hollywood laboratory supervisor had taken in timing and balancing that master print, the release-print appeared to have been made with little thought of correct timing. Where perhaps a scene or two needed to be printed a point darker or lighter, these corrections were ignored; one whole reel appeared to have been printed with the light-change cues out of sync. In every reel, contrast and gradation were unbelievably distorted.

A few hours later, the laboratory expert, discussing the same problem of coordinating the work of the daily and release-print laboratories, commented on how on one recent production a release-printing contract hinged on a difference of less than \$0.005—*five mills*—per foot! We don't know how the quality of output in the several release-printing plants involved may vary—but we wonder if in many instances the industry may not be penny-wise and pound-foolish in settling release-printing deals on such picayunish savings. On the particular production involved, this saving in release-print costs totalled—for the entire release—less than \$300. That is less than a week's salary for the man who photographed that picture, or for its cheapest featured player. It is less than one tenth of what was spent for raw picture-negative alone. A single good day's business in any first-run theatre in a large city should bring in far more at the box-office. And yet for

such a small, penny-pinching pseudo-economy, many a producer runs the risk of wasting much of the work his camera and sound crews have done in their efforts to give him the best possible photography and sound for his production! We wonder if it pays!

SOME people in Hollywood are prone to say that cinematographers aren't news. But every so often, along comes a writer or journalist who hasn't heard that dictum—and by writing intelligently about cinematographers, proceeds to prove it false. All of which is by way of extending the sincere appreciation of the A.S.C. to two noted writers who have recently given the camera profession their attention in national periodicals. First is John Erskine, who in the February 22 issue of *Liberty* has a sincere and praiseworthy article entitled "Hollywood Cameraman," wherein he interviews Joseph Valentine, A.S.C. and Harry Stradling, A.S.C., in a way which while not perhaps phototechnically perfect, certainly presents the cinematographer to the lay reader in a truer light than anything we've seen in a long time. Second comes actress-columnist Hedda Hopper, whose daily syndicate column is always ready to give credit to the achievements of the men behind the camera. To both of them, our most sincere appreciation—our thanks for recognizing that cinematographers *are* "good copy," and proving it so capably. And a suggestion—there are several hundred other directors of photography whose achievements, ideas and personalities are equally newsworthy; and the A.S.C. and its official publication stand ready and eager to give you every co-operation in your efforts to bring your readers further honest news about the men who film their movies.

SOMETIMES we wonder if those of us in the cinetech community really appreciate the services offered us by the raw-stock manufacturers and their distributors. We lunch with them, play golf with them, accept their advice on professional and technical problems—but do we ever give a serious thought to the intricate job they are constantly doing for us?

There was a time—not so many years ago, either—when if a cinematographer or laboratory-man wanted film, he could freely choose between a magnificent array of two types: negative and positive. If he wanted to find out anything about the performance or technical characteristics of that film, it was usually up to him to find it out for himself, at his own expense or that of his studio. If the results obtained were not up to

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A.S.C. on Parade

They staged a birthday-party to end all birthday-parties at Universal one day recently. Promptly at noon the doors of the stage where **Rudy Mate, A.S.C.**, was filming "Flame of New Orleans" were flung open to admit 20 waitresses from the studio commissary, who entered singing "Happy Birthday, Dear Rudy," and ceremoniously presented him with one battered cup-cake, in which was a single lighted candle. The troupe provided a huge box of "gag" presents, among which was discovered a textbook on romantic approach, inscribed feelingly to "the shyest man in Hollywood." But after the ribbing was over, star **Marlene Dietrich** provided champagne in which the company toasted **Rudy's** birthday in approved style.

And speaking of birthdays—**John Mes-call, A.S.C.**, over at Paramount to direct the photography of "The Night of January 16th," is instituting a quiet campaign to have the pic's handle changed to "The Night of January 10th," on account of that's his birthday.

Across the back fence at RKO, **Roy Hunt, A.S.C.**, and **Russell Cully, A.S.C.**, have packed their bags and camera-cases for a trip to Ft. Benning, Ga., to make scenes for **Roy's** forthcoming RKOpus, "Parachute Battalion."

Anent anniversaries and such, Columbia's one-man short-subject studio, veteran producer-director-cinematographer **Ralph Staub, A.S.C.**, draws a new contract to continue turning out his "Screen Snapshots." This marks the start of his 9th year as a Columbia producer on this series, for which in all he has produced, directed and photographed a total of 531 subjects. Nice going, **Ralph**—keep it up!

Eddie Cronjager, A.S.C., certainly has the nicest things happen to him. First his bosses at 20th Century-Fox give him a trip to Sun Valley to shoot scenes for their snowpus of that name. Then right in the middle of that, they send **Eddie** word his option's been picked up for another term of moviemaking at the Westwood plant. Well, after seeing **Eddie's** work on "Western Union," you can't blame them for wanting him around.

Arthur Miller, A.S.C., is another man whose face will be seen behind Col. Zanuck's cameras for another year. Even before the preview of his latest—"Tobacco Road"—TCF executives handed him a dotted line to sign on. And by the way—have you seen **Artie's** version of the rhumba? It's terrific!

By the same token, **Paul Ivano, A.S.C.**, is en route to tackle the tango on its

native heath. He's just signed a contract with Baires Films, of Buenos Aires, which will keep him in South America's growing "estudios" for the next three years.

Arthur Todd, A.S.C., gets the camera assignment to "Mother's Boys" at Warner Bros.

Last time we looked in at Paramount, it looked like Old Home Week. **Karl Struss, A.S.C.**, was back filming "Caught In The Draft;" **Ted Sparkuhl, A.S.C.**, was on another stage lensing "Nurses Don't Tell;" and we learn that **Victor Milner, A.S.C.**, for seventeen years a Paramount fixture, will soon be back to direct the photography of **Cecil De-Mille's** next technicolored opus, "Reap The Wild Wind." Before that, though, **Vic**, who just finished "The Man Who Lost Himself" at Universal, will stop long enough on the RKO lot to put "My Life With Caroline" on film.

Charles G. Clarke, A.S.C., almost always seems to be wearing a smile, but lately it's been beaming even better than usual. Seems as if the executives out 20th Century-Fox way thought so much of his work filming "The Cowboy and the Blonde" that they've signed him up to a new contract.

If there's a dearth of big productions this season, **Gregg Toland, A.S.C.**, doesn't know it. He's had the director of photography assignment on three of the season's biggest (and toughest) ones in quick succession—**Walter Wanger's** "The Long Voyage Home," **Orson Welles' "Citizen Kane,"** and **Howard Hughes' "The Outlaw"**—with another big one, **Goldwyn's** version of "The Little Foxes," with **Bette Davis**, coming up early in March. With production on the **Hughes** picture repeatedly delayed, **Gregg** almost had to forego his long-anticipated vacation on director **John Ford's** yacht off Mazatlan, Mexico. But he finally managed to slip away, turning over completion of "The Outlaw" to the capable hands of **A. L. Gilks, A.S.C.** Incidentally, **Al** is loud in his praises of the **Hughes** organization and of the smooth efficiency of **Gregg's** crew.

Franz Planer, A.S.C., draws the assignment to photograph Columbia's "Time Out For Rhythm." At least, that's the title up to the time of going to press; it's been changed two or three times already, and may be again. Really, getting out this department would be a simpler task if the studios wouldn't change titles quite so often!

Wonder where is that picture **Art Lloyd, A.S.C.**, promised us for this page?

Glennon, Skall Top Preview Critics Poll

Technicolor productions were the heavy winners in the Hollywood Reporter's Critics Preview Poll for January. **Bert Glennon, A.S.C.** and **William V. Skall, A.S.C.**, co-directors of photography on Paramount's Technicolored "Virginia," captured first honors. Second by a single vote was **Tony Gaudio, A.S.C.**, for his monochrome camerawork on Warner Bros.' "High Sierra." Third place went to another Technicolor film, Twentieth Century-Fox's "Western Union," the work of **Edward Cronjager, A.S.C.**, and **Allen M. Davey, A.S.C.** The latter film was but three votes behind "High Sierra," making it the closest race of the month, and probably one of the closest in the history of the poll.

The patriotism of **Vernon Walker, A.S.C.**, recently stood up under a severe jolt. It seems RKO's special-effects head-man has had to move his yacht from the snug Wilmington dock where it has been moored for years. Reason? Dock-space needed for make room for defense manufacturing. At that, maybe **Skipper Walker** is lucky; the Navy hasn't yet requisitioned it to add to the mosquito fleet!

Peverell Marley, A.S.C., is purring delightedly over his new Lincoln Zephyr. Get him to tell you sometime about the deal he made in getting it.

Hal Rosson, A.S.C., draws the assignment to MGM's "Washington Melodrama."

By the way, did you see the commanding table **ASC-Prexy John Arnold, Joe Rutenberg, A.S.C.**, and their fellow MGM-ites had at the Academy Banquet? Looked like the Royal Box at the Opera! Also glimpsed at the Academy blow-out were the Paramountineers—including head-man **Roy Hunter, Victor Milner, A.S.C.**, **Charles Lang, A.S.C.**, **Farciot Edouart, A.S.C.**, sound-expert **Loren Ryder**, and others, grouped convivially around another well-placed table. At the next table, **Gordon Jennings, A.S.C.**, surprised us with the Continental gallantry of the way he congratulated Editing Award-winner **Anne Bauchens** when she returned to her seat with her plaque. We spotted **James C. Van Trees, A.S.C.**, and Warner Cameraxec **Mike McGreal**, with charming partners, doing nobly on the dance-floor, too. The Warner aggregation was too far from our table to make sure, but reliable reports indicate that **Fred Gage, A.S.C.**, shaved in honor of the occasion. As a matter of fact, the A.S.C. was out in force, in its best bib-and-tucker, to honor **George Barnes'** well-earned victory.



Many Glacier region; scene from Yale's film "In All the World."

ing conditions at such altitudes naturally are somewhat different from those most of us are accustomed to in making pictures at home, in lower altitudes. In many of the most pictorial long-shots, too, your lens will be taking in a tremendous expanse of landscape, which means there's often much more light than you realize entering the lens.

"I've noticed there is a general tendency among amateur still and movie photographers visiting Glacier Park for the first time to overexpose. Accustomed to the light-values encountered at lower altitudes, they are amazed when I tell them that in shooting our Kodachrome movies, our average exposure ranges between f:6.3 and f:8 at 24 frames per second; that works out to f:8 to f:11 at the 16-frame speed of the average silent-picture camera. Keep to that sort of exposure, except of course for close-ups and in shade, and you're likely to be pretty successful.

Glacier National Park Moviemaker

By WILLIAM STULL, A.S.C.

WILLIAM S. YALE has one of those jobs most of us can only dream about. As Chief Cinematographer for the Great Northern Railway, he spends his summers wandering around Glacier National Park with a Cine-Kodak Special, making Kodachrome movies of "the Alps of America"—and getting paid for it.

And Bill Yale's movies are outstanding. In camerawork, composition, continuity, sound and presentation they are far and away above the general run of commercial movies. Many amateur cine clubs, like the critical and movie-wise Los Angeles Cinema Club and the Los Angeles 8mm. Club, have a definite aversion to including commercial 16mm. films in their program material: but both of these clubs, in common with many others throughout the country, have spontaneously extended to Yale an unreserved invitation to attend their meetings any time he happens to be in town, and to show them any films he may happen to have with him. Definitely, he stands in the front rank of the nation's top Kodachrome filmmakers.

But if you ask Bill Yale about it all, he will modestly disclaim all personal credit. "You can't help making good pictures in Glacier Park," he will insist. "You know, the Blackfoot Indians there have a saying that in that region, no matter in which direction you look, you'll find a picture. In the last four years I've shot over 100,000 feet of 16mm. Kodachrome in and around Glacier Park, and I'm pretty well convinced that the Indians have put it just about right.

The park is located right astride the ridge of the Rocky Mountains, you know, and it offers just about every type of pictorial scenery you could imagine, ranging from rolling prairies, in which here and there towering granite buttes stand up like sentinels, to some of the highest and most spectacular mountain scenery in America. I've never been to Switzerland, but people who have assured me that our own Glacier Park region is even more impressive scenically and photographically.

"Glacier Park, by the way, gets its name from the fact that it is one of the few places in continental America where living glaciers are still to be found. Within the park's area there are a total of 60 glaciers, many of them surprisingly easy of access. For good measure, too, there are more than 250 lakes in the park, with enough prairies and forests, rivers and waterfalls, wildflowers and wild animals to provide just about every picture ingredient anyone could wish for. It's no wonder that nine people out of every ten who come to the park seem to have some sort of a camera; and a surprising number carry 16mm. or 8mm. cine cameras and Kodachrome. And no wonder, for it's one of the most colorful spots in the world.

"There are naturally a number of technical tips that will help anyone who visits Glacier Park bring back better pictures of his trip. Take the matter of exposure, for instance. Practically all of that mountain country is at elevations ranging from 6,000 to 7,000 feet above sea-level. Atmospheric and light-

"The safest guide to exposure anywhere is of course a dependable, photo-electric exposure-meter. I use one religiously in my work. As a matter of fact, I use two, for when I'm out on the trail filming a saddle-trip, there's always the possibility I may drop one meter and break it just when I need it most.

"If you use a meter, be sure and point it well down when you take your readings, for the sky at those altitudes re-



"Trick Falls," Glacier Park; scene from Yale's film, "In All the World."

flects a lot more light than you're used to at home. Taking your readings with this in mind, you'll get excellent results. And, by the way, when you minimize the effect of sky reflection in your meter-readings, you'll find that in most cases your Kodachrome will automatically give you beautiful deep-blue skies, and your black-and-white, fairly dark grey ones without any filtering, so that clouds, snow-capped mountains, and the like will stand out beautifully.

"When you're making scenes in which people figure, be sure and take your meter-readings for the *faces*, rather than for the scene as a whole. And take your readings so you'll be exposing for the darkest-tanned or most shadowed face! With everything else so colorful and so highly reflective, those faces and shadows are the governing factor in your exposure.

"This is particularly the case when you're shooting the Indians. Their complexions are a deeply reddish copper-color—very dark—and unless you expose for them, they'll be underexposed and lost in either Kodachrome or black-and-white. In fact, they'll be worse than that, for our Indians wear white buckskin costumes, ornamented with colorful, pastel-shaded beadwork and feather trimmings, and the contrast between the dark faces and the white costumes will exaggerate the actual contrast unless you expose for the faces and trust the latitude of film and processing to take care of the highlights. That old-time rule of still photography—'expose for the shadows, and the highlights will take care of themselves'—is a pretty safe guide to go by anywhere.

"There's another thing about handling film at the high altitudes you'll encounter in Glacier Park. The light is deceptively penetrating. I've learned from

sad experience never to try to load film—especially Kodachrome—outdoors, even in what you'd normally call shade. If you do, you'll find edge-fog spoiling your film for as much as 25 or 30 feet from the *inner* end of your leader! Of course you can't always go indoors to load the camera when you're shooting in such an expansive part of the 'great outdoors' as Glacier Park—but you can almost always sit down somewhere in the shade, fold your coat over your lap, and use it like a changing-bag. It's a certain amount of bother, of course, but believe me, it is worth it in film saved.

"Another thing, it isn't very healthy to leave film-cans in the car where the direct rays of the sun can hit them. I don't know whether it's the heat, or some peculiarity of the high-altitude sunlight, but again there's danger of fogging. To be on the safe side, keep your new and exposed film covered up in your camera-case.

"Filtering either black-and-white or Kodachrome there in Glacier Park is a simple matter. With Kodachrome, I almost never use a filter except when I've been shooting interiors inside one of the lodges or hotels, using Photofloods and Type A film; then if I want to finish up the roll on exteriors, I naturally have to use the usual Type A daylight filter.

"According to most Kodachrome instruction-books, some of the extreme long-shot landscapes we have up there ought to call for the use of the Kodachrome haze filter. But, to speak frankly, I never use that filter. To my mind, it's worse than useless, for two reasons. In the first place, the faint, blue-violet haze you'll get in the distance of such shots is a part of the actual, visual impression you receive looking at the view itself. I like to have it in my picture, and I find most audiences like shots that show it.

"Secondly, if you really want to cut through haze in Kodachrome, a polar-screen will do the job much better. It will also deepen your sky very effectively when you want one of those deep blue 'Maxfield Parrish' skies to make mountains or clouds stand out. As a rule, in actual practice, when I use a polar-screen for either of these purposes, I seldom use it to the full polarization, but instead to about half or three-quarter polarization. It makes scenes made that way match up better with the other, un-polarized shots.

'By the way—if you've been using a polar-screen for any length of time, as I have, better check it over for discoloration before shooting color with it this season. I lost quite a lot of valuable film from that cause last summer, and I found that quite a number of the earlier polar-screens have had to be replaced because they discolored. The discoloration wasn't visually obvious unless you were looking for it, but it showed up very objectionably on the screen.

"Filtering in black-and-white at Glacier Park's altitudes is also a simple matter. The light is so strong up there
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From top to bottom: St. Mary Lake; Indians welcoming new arrivals at station; Two Medicine Lakes; View from Prince of Wales Hotel, Waterton Lakes National Park (Canada), adjoining Glacier Park; another scene on trail beside St. Mary Lake; Yale (standing on dolly) filming an interior scene in Glacier Park Hotel for "In All the World."



Rocky Mountain Goats come down to the chalets in early evening, and may be filmed easily with fast film.

SCENARIO FILMS — UNLIMITED!

The Story of the Movie-making Long Beach Cinema Club.

By HARRY E. WARD, JR.

MOST amateur movie clubs, in principle, at least, agree that there's a lot of truth to the old saying that "two heads are better than one." Most of them apply it merely to the showing and discussion of the films made individually by the members. But the Long Beach, California, Cinema Club has for nearly four years applied it most successfully to the cooperative making of scenario films. During that time we've filmed more than half-a-dozen scenario productions—four of them feature-length—and we've made our club activities so much a part of the life of our community that when the Club goes into production it receives from the police, the city officials and the merchants of Long Beach the same active cooperation that would be afforded a troupe of Hollywood professionals.

In making these productions, there's no such thing as an official Club cinematographer. All of us who want to film the picture may—and our recent productions have been lensed by as many as seventeen 16mm. and 8mm. cameras simultaneously. Needless to say, there's some rivalry between the members as to which of the various versions of each story is best! Since each member is free to choose his own camera-angles, to shoot or to ignore any given scenes, and to edit and title his film as he may choose, the different picturizations of the same story and action show a remarkable range of originality and treatment.

I haven't as yet heard of any cine-clubs that *ended* in a police-station, but I think the Long Beach Cinema Club is probably the only one which *began* its career in such surroundings. The first meeting of the club—which at that time was a nameless orphan—was held in an upstairs room over the Police Station in the suburb of Belmont Shore. This was in the fall of 1937.

After two mildly promising organizing meetings (at which no appointments were made, and very little done, since none of us knew how!) the Club's third meeting, at which about 70 people were present, finally got us started right. Expert George Andrews, from Los Angeles' Eastman Kodak Store, told us about the activities of similar clubs in other cities, and showed us some films which proved

a revelation to most of us. Up to that time, I must admit, few of us had any idea of what 8mm. and 16mm. cameras could do: most of us were endowed with only the cheapest of cineboxes and practically no knowledge of how to use them, and judged by any serious standards, our pictures—proud of them though we might be—were pretty awful stuff on the screen.

At this meeting, the Club really got going. Otis Hoyt, who had arranged for our meeting-place because of his connection with the Police Department, was elected President, and the Club got its name. We continued to meet in these quarters—at no cost to the Club—for the first six precarious months of the Club's life. Our dues were set at the modest sum of 50c a month. With the first money taken in, we splurged and bought a large Da-Lite screen which became Club property. And yours truly was elected projectionist, custodian of equipment, and property-man. What a job!

In the spring of 1938 we embarked on our first production—"Danny's Mistake." Somehow, the story was quite a success, even though most of us had hardly any idea which end of the camera ought to be pointed at the subject. For example, though there were, if I remember rightly, some six cameras grinding on this story, there were only two exposure-meters among the lot. And after shooting the first two scenes, the owners of these meters showed us how badly wrong most of us were on exposure. Chastened spirits—and retakes—followed, and from then on we followed the guidance of the meters! The entire production took two shooting days.

When the titles were made and the films screened for the first time, we felt that the project was—to us, at least—a great success. Looking back, I don't think any of us can brag very much about it; still, it wasn't too bad, considering how little we knew about what we were doing.

Well, we had to progress, so in June of that same year—1938—we conceived the idea of a Club picnic. We journeyed forth to the Orange County Park complete with cameras, staff artists, wives, kids, lunch and lots of filmic ambition. There we combined picnicking with the

production of a script called "Camera Clickers." In this an Imp (otherwise my Number One son) proved his worth in a leading role. Clarence Aldrich, a long-suffering man who had two months before, become the Club's second president, put on makeup, a goatee, and portrayed what is known as an Artist.

Throughout the luncheon the Imp placed salt in abundance on the Artist's sandwiches, salt in his coffee, and in general made a nuisance of himself in every way a gag-minded script-writer could imagine. The camera-climax was reached when the Artist—via pantomime and title—made the statement, "Of all places to sit, why did I sit next to you!" With that he left the table, picked up his painting, and went to a nice, photogenic spot near a tree and proceeded to paint the landscape. The rest of the Club gathered about to watch and the Imp, seeing his opportunity, picked up a gallon water-jug that stood nearby, and very politely—in the best Sennett manner—poured a generous quantity on the equipment of the painter, who received, too, an abundance on his southern extremities. That, of course, also in the Sennett tradition, led to the concluding "chase," in which the artist's easel and the nearly-finished painting were dashed to the ground and thoroughly ruined. Not particularly original, perhaps, and absolutely lacking in "social significance"—but we had more fun than a picnic making it!

By this time the picture-making bug had gotten well into our veins, so we decided to try our collective hand at a comedy. President Aldrich dreamed up an idea for a story called "Tramp's Triumph." Yours truly, of course, was again property-man—and what a job it was!

To cast the picture, we went outside our own group. There were parts for a housewife, two young girls and two boys. For these we applied to the city school system, and from that source received the needed cooperation in the form of five people who enthusiastically portrayed these parts. The tramp was loaned to use from one of the Los Angeles studios; our friend Mr. O'Connor donned grease-paint and steel-wool whiskers and filled the role excellently.



chocolate pie on the poor tramp's schnozle for the final fade-out.

That picture won a surprisingly favorable rating in one of the national movie magazines.

Encouraged by this success, we followed through with "A Night At The Club," our first all-indoor production, filmed with the aid of the local Players' Guild. This production, with "Judge Doolittle," another all-indoor film, with revisions of the Doolittle story was called "Esquire Escapade," and received top-flight honors for Clarence Aldrich from a national magazine, and an almost equally high rating for my own version of the Doolittle story. We were progressing!

In 1939 we spent hours, days and weeks trying to devise a story. We wanted to be different. Finally member La-Nelle Fosholdt made a suggestion for a waterfront story called "Suzanna." The script was written, and an ad placed in the local papers for talent to apply for

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With ten cameras set up and loaded we started early one morning to film our epic.

In the old days of professional silent-movie comedies, so they tell me, a troupe often used to start out in the morning with a rough idea of what they wanted to hang their gags on, and then let things build up as they shot. That's a good deal the way we worked. Our script began with our tramp digging into a garbage-can and trash-barrel, in which he finds an alarm-clock, a new sock, a cigar, and a piece of rope from which to make himself a belt. While he continues his search for more treasures, he scatters discarded newspapers here and there. Then the housewife comes out, horrified at the havoc he's wreaking in her nice, clean yard. Lustily swatting the miscreant with her broom, she sternly orders him to pick up the papers. He does so, edging slyly toward the alley, up which he finally makes his escape. Once he has reached a point of relative safety in the next street, he stops, takes off his shoe and puts on the good sock, lights up the cigar, and strolls off feeling he's king of the world.

Between our group and one cooperative police officer, we kept the busses and street-traffic blocked while we filmed this action. Then, since it was only noon, and we had plenty of film left, we felt we simply had to shoot more footage. We maneuvered our tramp out into the street, and had him attempt to thumb a ride from passing cars. Of course, since he was no Claudette Colbert, nobody would pick him up—we saw to that, you may be sure! But it made good filming; he "mugged" appropriately, and ran after a car or two, which gave us plenty of useful footage. Finally one of our group picked him up and he proceeded to the city park. At this point we went violently slapstick, ending up by having one of the girls plant a very squashy



Long Beach Cineclubbers filming "Happy Landings." Top, players ready for a "take." Co-directors Ray Fosholdt (on ground) and Clarence Aldrich (standing). Center, frame enlargement showing scene-slate double-exposed on scene being shot. Bottom, 14 of the 17 members who filmed this picture lined up for action.

SURGICAL CINEMATOGRAPHY

By FRED C. ELLS

PULSATING, alive, a pink-gray human brain is exposed. An embedded tumor smokes and hisses under the electric cautery as it is being excised. Sterile-gowned nurses and assistant doctors, nerves tense, watch with narrowed eyes the surgeon's rubber-gloved hands in delicate manipulation, as they maintain a steady balance between life and death. Above the sleeping patient, behind 5000 watts of white light, a purring 16mm. camera with unerring fidelity records every detail of motion and color of the sensational drama.

That is a sequence that the layman in the past never saw. With a changing attitude on the part of the medical profession, however, surgical pictures of general interest are now being shown to the public in some localities. They are sure to excite an intense reaction, for even doctors whose lives are spent in the atmosphere of the operating room, gasp at the accuracy of modern color film, and the scalpel-sharp recording of the modern lens.

But satisfactory results in the specialized field of surgical cinematography are not possible without a great deal of cooperative understanding. The technical requirements are so exacting that most attempts by enthusiastic amateurs, and even by professionals inexperienced in this work, are dismal failures as teaching media.

Los Angeles surgeons count themselves fortunate in having available a surgical cinematographer, Billy Burke, whose surgical cinematography they consider unequalled in this country. But Mr. Burke has arrived at this eminence by over a decade of experimentation, and would be the first to admit that there are still many unsolved problems before him.

In a series of interviews with Mr. Burke for *The American Cinematographer*, he points out a few of the pitfalls that beset the beginner in this field. First consider the stage on which the picture is to be shot.

Hospital operating rooms run on a precision schedule. Patients and surgeons are assigned definite rooms at definite hours, and must not be kept waiting. Just sufficient time must be allowed between operations to clean up after one and prepare for the next. The cameraman must not interfere with this routine any more than he can possibly help. He must arrive at the hospital about an hour before the operation is scheduled, and get his equipment near the surgery. The equipment cases are seldom opened outside the hospital, lest they collect

The keynote of the policy of *THE AMERICAN CINEMATOGRAPHER* is to bend every effort at all times to ensure complete technical accuracy and trustworthiness in the articles presented to its readers. To this end, when articles dealing with subjects with which neither the Editorial Staff nor the Advisory Editorial Board may be completely familiar are received, they are submitted before publication to the critical scrutiny of outstanding specialists in the field with which they are concerned. When this article was received, it was therefore submitted to the examination of one of America's foremost specialists in the exacting field of brain surgery, Dr. Rupert Rainey. His comment, coming as it does from an outstanding member of the conservative medical profession, is an unusual tribute to Mr. Ells' article and to Cinematographer Burke's achievements. He states "I have read and approved this article, and it is my opinion that it should be required reading for any operator of photographic equipment in a surgery."

—THE EDITOR

dust. The camera, an Eastman Cine-Kodak Special, with extra magazines, is carefully checked. That is, the cameras must be free of emulsion particles, and the interior of the magazines scrupulously clean. Lenses are painstakingly polished. Fresh 100 foot-rolls of Type A Kodachrome are loaded.

A professional-type tripod, solidly built, with a total possible height of 10 feet, is extended. Two lights, new No. 4 Photofloods, about 2,500 watts each, are screwed in their reflectors, which in turn are mounted in special fittings on the tripod, from which they may be turned on and off, and their position adjusted as necessary.

Equipment must be so constructed as to preclude absolutely any possibility of accidentally falling into the sterile field, or of any dust or dirt jarring off into that area. Finally, all electrical connections are checked, that there may be no failure of lights and the ample amperage may be received over *underloaded* power lines. Cable-connections are taped, so they cannot be accidentally pulled apart. There must be no electric sparks in the operating room, for ether and other gases are highly explosive. All

equipment taken into the operating room must be wiped with a clean towel wet in alcohol.

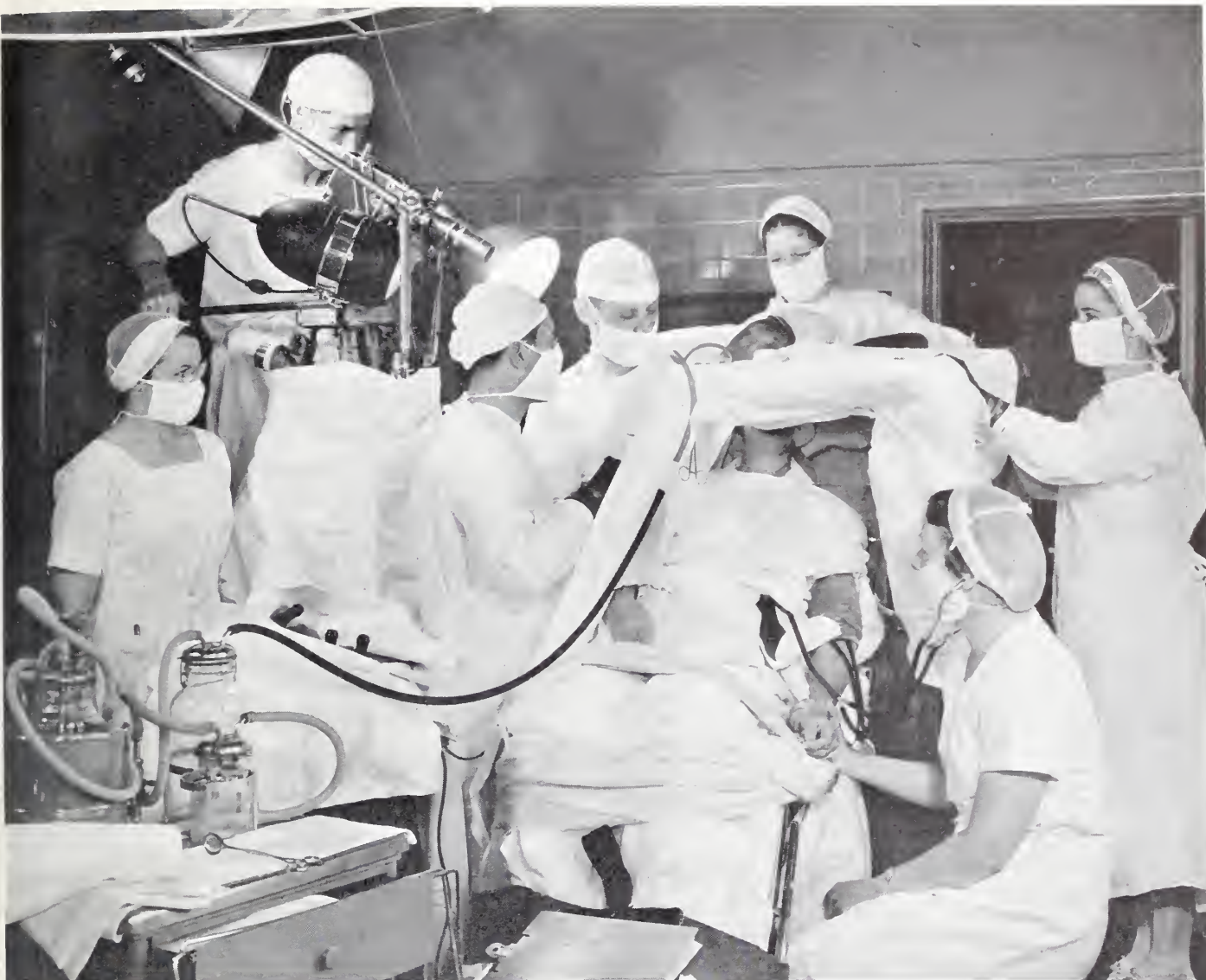
All this must be accomplished without interfering with the routine of the busy surgery. That requires on the part of the cinematographer intimate knowledge of hospital practice, and the cooperation of the hospital staff. Any infraction of rules or any mishap, might force the hospital to bar further cinematography. In a surgery, the patient is always the first consideration.

In the surgeons' dressing-room, the cinematographer removes his street clothing, washes up, and dons a sterile white gown, cap and mask. As soon as the patient is in position on the surgery-room table, the tripod is moved into position and the camera mounted. Any portion of the apparatus near the sterile field must be draped with sterile towels. The cameraman mounts a small step-ladder. He critically focuses on the field by a direct observation through the reflex finder. Surgeon and assistants place themselves in position. The stage is set.

From this point, cooperation with the surgeon is all-important. He has already discussed the case with the cinematographer, who must have a clear idea of the action to expect and the consequent angle at which to shoot. Such discussions require a considerable knowledge of surgery, for surgeons have a vocabulary of their own—almost a separate dialect—and it is incomprehensible to the laity.

At the same time, the camera has certain peculiarities, to which the surgeon must conform if the picture is to be successful. A surgeon who is familiar with motion picture technique, acquired by experience, is almost essential. Occasional quiet requests are exchanged. The area covered by the lens may not be over a foot square; often half that. The field must be left open as far as possible to the lens. The camera runs at 24 frames per second, but in so small a field the motion of the hands and instruments must be smooth and not too rapid. Otherwise the picture would falsely show what would appear to be nervousness on the part of the operator. Unnoticed, the surgeon's arm may move into the field. At a word from the cinematographer, it moves slowly out. Gloves become stained, or new gloves covered with powder are introduced. The surgeon is reminded to wash them off. Soiled towels in the field are replaced, and swabs and instruments removed promptly.

For his part, the surgeon calls the shots. He knows what he wants. Much of surgery is routine, familiar to all



Billy Burke filming a delicate brain operation, Dr. Rupert Rainey operating. Note telenphoto lens on Cine-Special, special mounts for camera and floodlights, and use of spotlight. Photo by "Dick" Whittington.

doctors, and a common mistake of beginners is to over-shoot and under-cut. That makes the finished film distressingly tedious. An operation may last two or three hours, yet can be adequately filmed, with titles included, in 15 minutes' projection.

The Photofloods snap on, dim at first. Check the field and focus, and adjust the aperture to, say, $f:4$. The lights leap to full intensity, dazzling on the white drapes. As the camera buzzes on the fade-in, the scalpel makes a clean incision, away from the camera. A thin line oozes red. A second swift, sure cut. Underlying tissues appear. Fade out as absorbent sponges are applied. The lights dim. The camera clicks as the film is reversed for a dissolve. The drive spring is wound tight again. An electric motor on the camera is not desirable—to heavy to suspend over the patient.

Focus is checked. The incision is getting deeper, and the tissues darker. Open to $f:3.5$ and stand by. The surgeon says, "Now!" Again the floods go on,

the camera fades in on the significant action and film flows by the lens. Again and again, off and on, for perhaps three hours. As required, fresh film-magazines are quickly placed. There can be no delays, and there are no re-takes. Occasionally the unconscious patient groans, or even speaks, but he feels nothing. Modern anesthesia is a marvelous mercy. The pulse is reported as strong, breathing deep as in sleep, color good. In that tension-packed room the patient alone, about whom all centers, is at peace.

Toward the middle of the operation, the villain of the drama, an inexplicable, little-understood tumor is uncovered. Now the camera runs longer, recording the story of the victory of science. Carefully the dissection proceeds. The offending growth is delicately separated from the surrounding healthy tissue. From time to time the electric cautery hisses—a wisp of vapor appears. With a sure hand the surgeon cuts the last few connecting tissues, and removes the object

of his search—the camera fades on this dramatic shot.

But it is necessary to show the cleansing and closing of the incision. Usually this is a routine procedure, and three or four dissolves quickly show the technique employed. Curved needles and sutures bring the severed tissues together. A final shot shows the dressing applied. The lights go dark on the little stage where a human life has been at stake.

A medieval physician piously remarked—"I cleansed the wound, and God healed it."

To this we can now add—"And the camera has recorded the action, that those who follow may be more skilled, to the end that human suffering be reduced, and a happier world result."

Surgical cinematography is not to be rashly undertaken by the untrained. It has none of the quick financial success of the theatrical field. But it pays large dividends in fascination, and a sense of contribution to the advance of medical science. END.



Projecting Sound and Silent Films

By James A. Sherlock

WHEN threading film into a projector it should be remembered that as the film passes the gate it should be upside down and wrong way round, as from left to right. Thus when facing the screen, the top of the picture should face the floor and the titles read from right to left. Below is a table showing which side should face the screen when various types of film are being projected:

Reversal original ..	Emulsion or dull side
Reversal duplicate ..	Base or shiny side
Positive print from negative	Base or shiny side
Dupe from a reversal made by taking a negative and making a print	Emulsion or dull side
Kodachrome and Agfacolor original ..	Emulsion or dull side
Dufaycolor	Base or shiny side
Kodachrome duplicate	Base or shiny side
Reversal dupe from positive print	Emulsion or dull side
Reversal dupe from reversal dupe	Emulsion or dull side

Projection-lenses

Standard cine projection-lenses supplied by manufacturers are usually twice the focal length of standard cine

camera-lenses; thus a 1-inch lens is provided with 8mm. projectors, and a 2-inch lens with 16 mm. projectors. These lenses will be found suitable for home use, but other focal length lenses are available for most popular projectors.

The accompanying table indicates the sizes of pictures obtained with various lenses at given distances. It should be noted that, under given conditions, as the distance between the screen and projector increases, the brilliancy of the picture decreases.

Projected Picture Sizes obtained with Filmo Projection Lenses

Lens Focal Length		Distance in Feet From Screen															
		8'	10'	12'	16'	20'	25'	32'	36'	40'	50'	64'	75'	100'	125'	150'	
On 8 mm. Projector	16 mm. Projector	Width of Picture															
	5 ¹ / ₈ "	4'10"	6'0"	7'2"	9'7"	12'0"											
	3 ¹ / ₄ "	4'0"	5'0"	6'0"	8'0"	10'0"	12'6"										
	1"	3'0"	3'9"	4'6"	6'0"	7'6"	9'4"	11'11"	13'5"	14'11"							
3 ¹ / ₄ "	1 ¹ / ₂ "	2'0"	2'6"	3'0"	4'0"	5'0"	6'3"	8'0"	9'0"	10'0"	12'6"						
1"	2"	1'6"	1'10"	2'3"	3'0"	3'9"	4'8"	6'0"	6'9"	7'5"	9'4"	11'11"	14'0"	18'9"	23'5"	28'1"	
	2 ¹ / ₂ "	1'2"	1'6"	1'9"	2'4"	3'0"	3'9"	4'9"	5'4"	6'0"	7'6"	9'7"	11'3"	15'0"	19'8"	22'5"	
1 ¹ / ₂ "	3"	...	1'3"	1'6"	2'0"	2'6"	3'1"	4'0"	4'6"	5'0"	6'3"	8'0"	9'4"	12'6"	15'7"	18'8"	
	3 ¹ / ₂ "	...	1'0"	1'3"	1'8"	2'1"	2'8"	3'5"	3'10"	4'3"	5'4"	6'11"	8'0"	10'8"	13'4"	16'0"	
	4"	...	...	1'1"	1'6"	1'10"	2'4"	3'0"	3'3"	3'9"	4'8"	6'0"	7'0"	9'4"	11'8"	14'0"

Projection lenses should be kept scrupulously clean and free from oil and dirt in a manner similar to that recommended for camera lenses.

Placing Projector and Screen

The projection lens should be placed above the heads of the audience to permit an unobstructed view to those seated in the rear. The projector should be seated on a very firm base and cushioned on a piece of sponge-rubber or felt which has the effect of absorbing noise. The bottom of the screen should be about 4 ft., 6 in. from the floor.

If the projector is moved or jolted when the lamp is burning its filament is liable to collapse, therefore the machine should be placed on a firm stand before it is used, and the lamp turned off before the projector is moved.

Screen Types

There are three types of screens commonly used for home projection:

Type (1) is the popular glass-beaded screen, composed of minute glass beads covering a white cloth. This screen is easily damaged and therefore should be handled with great care. It is most suitable for audiences seated in a narrow room because pictures viewed from an angle of more than 15 degrees from the projecting angle are affected by refraction. The advantage to be gained by using glass-beaded screens is that they do not require a screen illumination of more than 8 foot-candles.

Type (2) has aluminum sprayed on a smooth surface. These screens require only 4 foot-candles for their illumination, but like the glass-beaded screen, the audience should be seated within a viewing angle of 15 degrees from the screen, because they reflect light more strongly within this angle, outside of which the screen-brightness falls off rapidly.

Type (3) when sufficient projection light is available the best type of screen to use is a dull white-surfaced screen made of opaque cloth or possibly some other solid material such as wood, surfaced with a matte white pigment. This type is suitable for use in square rooms where some of the audience might be seated at a wide angle from the screen. Unfortunately these screens require a

high illumination, because they absorb more light than the glass-beaded or aluminum type. Approximately 16 foot-candles of illumination are required for these screens.

The edges of the projection aperture are seldom sharp, even when clean, and for this reason, a black border round the screen-edges to act as a mask is desirable.

Most screens sold by photographic houses are made on the roller-blind principle and housed in a case or box which is attached to the screen. This method affords protection to the surface, but if the screen is home-made of the flat rigid type some means of protection must be found which will keep it covered when not in use, as light has the effect of causing a loss of brilliance and discoloration.

Screen-Size

The average screen-size of a motion picture should be of such dimensions as will create an illusion of reality for the audience. It is difficult to compile tables for amateurs which give the correct picture-size needed for most rooms, because the first consideration for the home projectionist is the shape of the room available and the arrangement of heavy furniture which cannot be moved every time a show is given.

A rule used by architects when planning the screen-size for a picture theatre is that the screen height should be one-sixth of the distance from the screen to the projection-booth. Thus a room 18 feet long needs a screen about three feet high (and four feet long). This rule cannot always be followed, but is one which applies to most rooms where home movies are shown.

The ultimate in home projection is a specially designed projection-booth with a separate room adjoining that can be furnished with a proscenium, comfortable armchairs and light-dimmers, but of course this is beyond the realization of most cine-smiths.

Although a special screen-illumination meter (Weston No. 703) is available for measuring screen-brightness, any exposure-meter which is calibrated in units of foot-candles between 0 and 25, such as the "Master" Weston and The General Electric Meter, is suitable for the accurate evaluation of light being emitted from a cine projector.

Incident light can be measured from directly in front of the projection-lens or from the screen. Reflected light can be measured from the screen. It has been suggested* that the illumination should be measured from the centre of the screen, each of its four corners and the centre of the top, bottom and both sides. A ratio of 80 per cent is considered very good, and is obtainable with some projectors.

Cleanliness Essential

Generally the quality of substandard projection by both amateurs and professionals is deplorable. 35mm. theatre projectionists use great precautions to keep their machines and film free from foreign matter and oil-splashes, but although the magnification in 16mm. is $4\frac{1}{2}$ times more than in 35mm. projectors, sub-standard operators pay hardly any attention to cleanliness.

Leaving film uncovered for days and neglecting to wipe it before projection is a common fault with 16mm. workers, and the main reason why most scratches and "rain" marks appear on the film. A spot of dust is magnified 40,000 times on the screen, therefore cleanliness is essential.

Aperture-plates in substandard projectors should be easily removable to permit cleaning, but unfortunately they are usually fixed and hard to clean. This is one reason why they are often neglected. They should be frequently brushed or wiped with a piece of soft fluffless linen or at times, when a spot is obstinate, a wooden match might be used—nothing harder, as the highly polished projection gate is easily scratched. If it does become permanently marked, it should be taken out and repolished with jeweler's rouge, or replated.

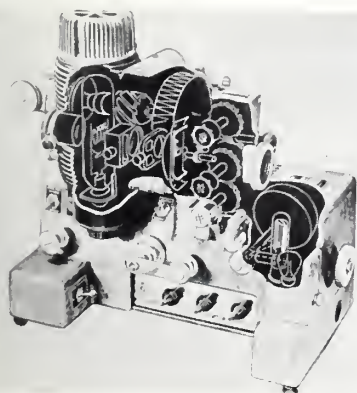
If one spot of film-emulsion adheres to the front or back pressure-plates of the projector it will cause the film to become scratched. But this is not the only cause for the scratches on cine film which are magnified so greatly on projection. Other causes are dirty gate, rewinding the film too quickly, or trying to tighten the film on the reel after it has been rewound. If a high-class projector is kept scrupulously clean it is possible to project one film thousands of times, but because the atmosphere is filled with small particles of dust it is sometimes necessary to clean the film with preparations sold by trade houses for this purpose. If these are not available, chemically pure carbon tetrachloride should be applied with a piece of silk plush or pure linen. Alcohol or cleaners containing alcohol should be avoided, especially for color-films, as alcohol dissolves the dyes used to form the picture.

Sound Projectors

Although at the present time there are three film-sizes of substandard sound projectors available, viz. 17.5mm., 16mm. and 9.5mm., only the 16mm. sound

(Continued on Page 149)

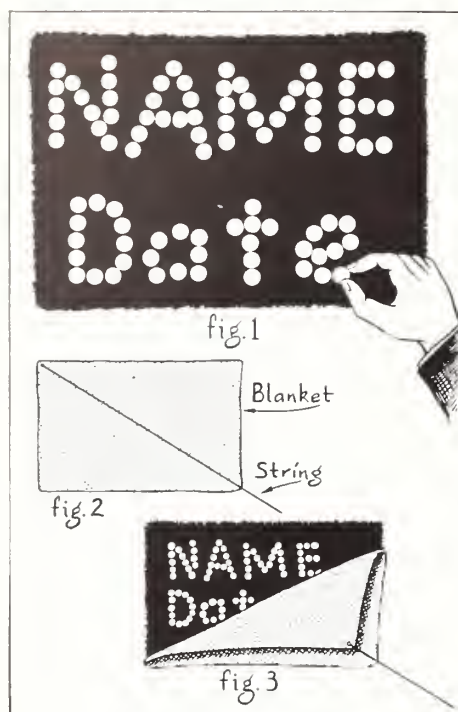
*Journal S.M.P.E., Volume 31, Number 5, p. 483.



Left, phantom view of mechanism of typical 16mm. sound projector. Right, sound on 16mm. is 25 frames ahead of its accompanying picture.



THE IDEA EXCHANGE



Title For Baby Picture

Recently we purchased a Model 25 Eastman 8mm. movie camera. We've been quite thrilled since with taking color movies of our young son in the house.

Naturally we wanted the title in color too. So we used our dark green rug as a background and printed the name and date on the rug with small red, white and yellow poker chips. (See Fig. 1.)

We then placed a blue baby blanket over the chips and attached a blue thread to the upper left corner of the blanket, as shown in Fig. 2. The thread was then laid across the blanket in line with the lower right corner. When the thread is pulled the blanket will roll back over itself and exposed the printing without disturbing it, as shown in Fig. 3. To conclude the shot the blanket was tossed back on top of the chips.

The printing should be kept in a space $23\frac{1}{2} \times 17\frac{1}{2}$ inches square at a camera distance of 6 feet. Two No. 2 Photo-floods were used.

We have had so many inquiries about this title every time we show the picture that we thought some one else might like to try it too.

E. LA VEN.

Projector Light-Baffle

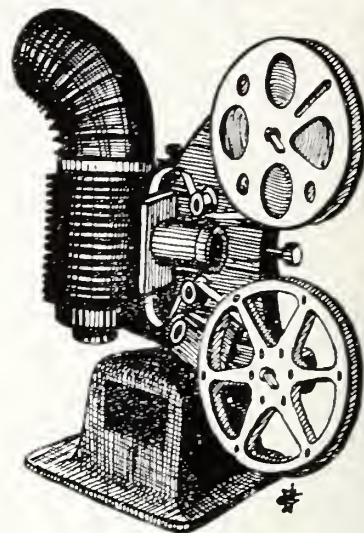
One of the less pleasant features of projecting films with most home movie projectors is the way the ventilating apertures at the top of the lamp-house throw a disturbing glare of light on the ceiling above. I have eliminated this in my Bell & Howell 8mm. projector by means of the simple gadget shown in the sketch.

Simply take an elbow-section of ordinary stove-pipe, of the right diameter to fit over the top of your projector's lamp-house, and place it over the lamp-house as shown, like a backward-angled chimney. To protect the projector from being marred or scratched, cement a strip of plush or velvet around the inside of the stovepipe.

The bend in the pipe blocks off part of the light, and throws the rest backward, where it is least objectionable. I have not been able to find any evidence that the pipe I am using interferes in the least with the blast of air that ventilates the lamp.

This gadget is most easily applied to projectors which, like the Bell & Howell, have a round lamp-house; but with only a little snipping and fitting it can be made to work just as well with machines that have square or other-shaped lamp-houses.

J. L. KINCAID.



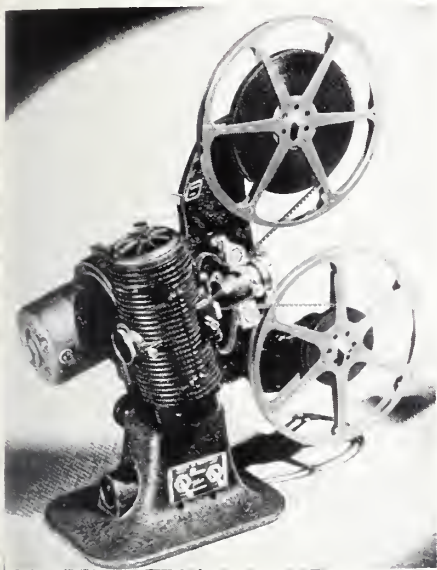
Remote Control

This gadget doesn't exactly come under the heading of easily home-made (Continued on Page 145)



By DUDLEY E. PORTER

...THE SHOWCASE...



Filmo Eight "400"

The long-awaited Filmo Eight "400", newest unit in the Bell & Howell 8mm. line, is just announced. Taking 8mm. reels of up to 400-foot capacity, the new "400" will present a full half hour of 8mm. movies without the interruption of changing reels. Yet it retails at a price somewhat lower than its 200-ft. predecessor.

Embodying all the features of the famous Filmo Master 8, the new "400" is said by its sponsors to be the "ultimate in 8mm. motion picture projectors." All-gear drive, B & H pre-aligned and prefocused projection lamp, "floating film," fast lens, power rewind, metered lubrication, two-way tilt, among other features, are claimed by Bell & Howell for the Filmo Eight "400".

At the same time, B & H also announce their new 400-foot, 8mm. reel of spring steel, with its accompanying humidifier can of aluminum.

The Filmo Eight "400" is priced at \$112.50; 400-foot reels and cans, 60¢ each.

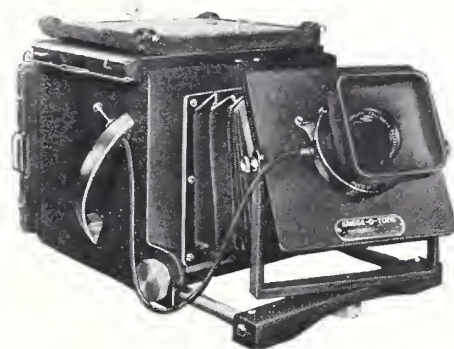
At the same time, Bell & Howell makes sensational news by lowering prices on previous models of Filmo 8mm. projectors and cameras. The famous Filmo Master 8 projector (200-foot capacity) has been reduced in price to \$99.50, and the Filmo "Sportster" 8mm. camera (16, 32, 48, and 64 frame-per-second speed) is now priced at \$69.50. Bell & Howell states that neither quality nor features of these popular models have been modified in any way—that the "Sportster" camera and Filmo Master 8 projector are at their new prices the identical models which have been so thoroughly approved by movie amateurs in the 8mm. field.

Krieger-O-Tone Color Camera

A new addition has been made to the photographic field by the Krieger Color and Chemical Co. of 6531 Santa Monica Boulevard, Hollywood, California, with the announcement of their new three-color 4 x 5 camera which will retail at what is said to be the lowest price of any color camera on the market. It is announced as bringing color photography within the price-range of thousands of amateurs' purses by selling at \$147.50 complete with a 7¼-inch Velostigmat f:6.3 lens employing a Betax shutter having speeds up to 1/100 of a second.

The camera-case is all metal, carefully designed for strength and light weight. The total weight with holders and lens shade does not exceed six pounds and the grip-handles are mounted in a natural position for the hands with the trigger release at the tip of the right thumb.

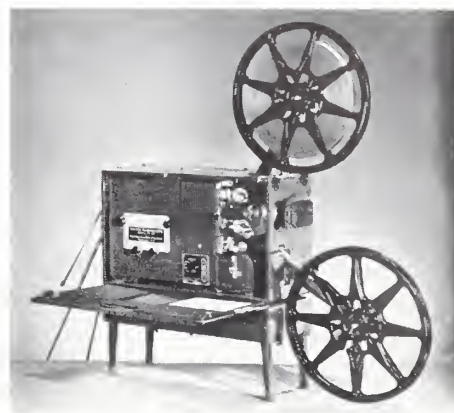
The new fast Defender type B tri-color combination film is used and as this film has a Weston Daylight speed of 6, small apertures and fast shutter speeds can be used for sharpness and action-subjects. For daylight shooting, a KB-6 filter is used, and a KF-1 filter is necessary for flash-bulb shots. The two filters, filter holders and lens-shade are accessories and sell for \$3.75. No filter is necessary when using the photoflood light-source.



The 7¼-inch focal length lens can focus from 22 inches to infinity and is mounted on an adjustable lens-board for vertical and horizontal tilts.

Although the Krieger Dye Company will develop and make prints from customers' negatives at a small charge, a dye kit can be purchased which is, in itself, a miniature darkroom for color work. The dyes, magenta, yellow and blue, make a gallon of each color solution. Other necessary chemicals such as ammonia, buffer and acetic acid, are also provided. Each camera sold will be registered and the buyer will be given an actual print with negatives made with that particular camera. Full instructions

for loading and using the camera and for making paper prints in color are provided to acquaint the purchasers with the ease of color photography. The camera is well adapted for aerial, news, sports, commercial and portrait photography. The new camera is far removed from the experimental stage after many months of exhaustive research.



New Sound Kodascope

Five new 16mm. sound-on-film projectors, priced from \$295 to \$520 and covering a wide range of school, industrial and home uses, are announced this month by the Eastman Kodak Company. The new machines are similar to one another in general design, but are differentiated in power-output, soundproofing and other features. Available power-output of the various models ranges from 10 watts up to 40 watts, with both double and single-speaker units available. According to the Eastman announcement, projection-light output appears to be standardized at 750 watts. Six projection-lenses ranging in focal length from 1-inch to 4-inch, and in speed from f:2.5 to f:1.6 are available to suit different projection distances and screen-sizes. All models accommodate 1600-foot reels.

The mechanical design of the new Sound Kodascope adheres to the usual Eastman standards of efficiency and durability, while the amplifiers, speakers and associated electrical equipment are of similar quality. In each of the new machines special provision is made for smooth, unvarying movement of the film past the sound-scanning aperture, and either variable-area or variable-density sound-tracks can of course be used.

Lowest in price of the new models is the Model FS-10, stated to be especially suited for home use. It is to retail at \$295 complete with 2-inch f:1.6 lens, 750-watt lamp, all tubes, speaker and speaker-cable, spare exciter-lamp, etc. This model has a rated sound-output of

(Continued on Page 144)



Picture Possibilities in the West Indies

MARTINIQUE is the capital of the French group. If you are making the trip there during the day, you can often have the opportunity of getting effective shots of Mt. Pele, cloud capped, as you sail by. The harbor of Fort de France is usually active and there are good shots of the town from the steamer. The town itself is good for a day's work with parks, monuments and government buildings vieing for honors with the vari-colored business houses.

Kodachrome is indispensable in Martinique. Be sure to get the native women in gay-colored dresses making and selling chic Martinique dolls to the tourists. They also sell madras bandanas which they arrange on the tourists' heads with the greatest of ease.

Montserrat and St. Lucia are next but they are not outstanding since you have already seen so many other islands similar in physical aspects, customs and industry.

But St. Vincent in the Windward

By
CHARLES W. HERBERT
A. S. C.

group has worthwhile attractions. Here is the center of the starch industry. Both the field harvest and the factories are picture-possibilities. Off the coast is a historic rock two hundred feet high on top of which are some cannons used in early-day defense. Scenes from here are as commanding as were the cannons.

Along the waterfront on St. Vincent you can always find one or more large schooners being built. There are many angles from which you can shoot with dramatic composition, especially when the keel and ribs are in place and before the bottom planking is laid. If you are

lucky enough to be in St. Vincent during a launching you will have a rare opportunity for a newsworthy sequence.

Should you be making a leisurely jaunt through the islands it would pay you to take a small sail-boat over to Beckway, where you can find more and larger boats being built down on the beach.

South is Grenada, the Spice Island—well named as it is the real center of the spice industry of the West Indies. Here mace, nutmeg and cocoa are raised in commercial quantities for export to many countries of the world. Color is also indispensable here. Make a trip out into the country and visit one of the plantations. Harvest-time is busy time. There's lots of action and usually you can get all of the processes on the same plantation. Men gather the spice in the forests and bring them into the drying yards. Here a large crew of women separate the mace from the nutmeg pod while other women crack the nutmeg shell with little wooden mallets and remove the nuts too quickly for



Doll-vendor, Martinique.

your eye to see. Slow-motion is useful here. Other women split open the cocoa pods and take out the seeds while still others dance with bare feet on the cocoa beans to polish them. The whole scene is one of rhythm and synchronized action and offers a splendid chance for you to build up a dramatic sequence in convincing tempo.

St. Georges, the principal town of Grenada, is built on three hills that fringe the perfect little harbor. There are many points of vantage from which outstanding general views can be made. You will have to toss a coin to decide which scene to make, and you will have to control a desire to shoot everything you see. Towns built on hillsides seem to have so many fascinating angle-shots. Flowers are in all the yards and you will find many native types around the markets and waterfront which you will want to shoot for close-ups. Grenada was French at one time, and some of the French-style buildings are still in evidence.

There is a novel little feature which you can get at any one of these houses. They all have a type of three-sided vestibule which projects out to the sidewalk. Inside it connects with the living room. Shutters with slats that open and close enclose the vestibule and there is always a chair inside where the lady of the house can sit and peep through the shutters to see what is going on in the street without being observed herself. The logical sequence here should start with a general view of the house followed by a close-up of the shutter as it opens slightly and a pair of eyes are seen through the narrow opening. Then a general view of a lady sitting inside peering out, followed by a head close-up of her. Next, by putting the camera close to the shutter, you can make a scene of whatever action there is in the street which she has been observing. This sort of a sequence can run pretty long if you can keep up a variety of action outside with various types of people walking past unmindful of your camera.

From Grenada your trail should lead east to Barbados, which is another little England. You could make a complete reel here if time and your wishes permitted. The Carenage at the waterfront in Bridgetown is a beehive of activity with countless sailing vessels tied up, unloading lumber and dried fish and loading molasses and sugar, while others

are undergoing repairs. The government buildings and squares are all good subjects and there's a type for a close-up at every turn.

The mounted police squadron can be found drilling every morning on the old barracks parade ground. Rural postmen on bicycles and in donkey-carts are worth developing into a complete sequence as they give logical action for many interesting road and rural scenes.

The huge windmills which grind sugarcane dot the landscape and turn in a fascinating rhythm that beats the tempo for a complete sequence of shots of the natives bringing in cane to the millhouse and carrying away the refuse. The massive gears that turn the grinding rollers make dramatic close-ups. The juice running down a trough gives you the carry-over shot to the boiling-house where a variety of shots can be made to tell the story of this primitive yet well-tried process that produces the finest sugar-cane syrup in the world. The powerful sails turning in a fresh breeze seem to beckon to you to shoot from all angles, early in the morning, at the first streak of dawn, on through the day to high noon and on and on to the setting sun.



Landing at Saba.

On the east coast there are extensive beaches and rock-studded shores. From a small cove a fleet of sailing vessels go out most every day through the swift-running surf. Get aboard one of these boats and you will be rewarded with some real sailing shots, particularly since they stay so close together that you can shoot several at one time from your camera position. They go out to the fishing banks and really capture flying fish with cleverly contrived nets. The trip back to port through the surf is more dangerous and thrilling than the passage out. Don't forget a general view of the whole fleet, which can be made from the shore on another day.

Since Barbados enjoys a large winter tourist trade there is a lot of activity around the beaches, hotels and private estates if you want this feature. The best chance to make shots of native boys diving for coins is when your ship arrives or leaves Bridgetown.

Trinidad, to the southwest, is another island where you can make a complete travel-reel. There's always plenty of action down around the waterfront and Port of Spain is a town of enough size that it really buzzes like a city down-

town. The buildings are all unusual with gaudy balconies covering the sidewalks. Some business houses have their whole sides painted with advertising signs and crude pictures. Others move out a good amount of their stock and hang it on wires until the whole building is obscured. Price tags seem to battle with the goods to see which can take up the most room.

The modern government buildings are a striking contrast to the typical old buildings. Negro "bobbies" direct traffic with proud authority. The Botanical Gardens will give an opportunity for some shots of unusual trees and plants. On the far side of the island large coconut plantations are particularly picturesque as the trees are so tall and many of the plantations come right down to tropical beaches in placid bays. Get a pattern of these trees against the skyline with ocean background and clouds. Then have some native boys climb up the trees like monkeys. If you stop 'way down for the sky and water the trees and boys will be recorded in silhouette.

Trinidad has rightly been called the melting-pot crossroads of the West Indies. Chinese, Japanese, Filipinos, East Indians, Sikhs, Portugese, Negroes, Spaniards and English are all there, each retaining some of their homeland traditions, customs and dress. An effective sequence can be made showing these various mixtures as they have become assimilated in the various walks of life.

The East Indians do most of the farming and you can get shots that might just as well have been made in their native land. Hindu temples dot the landscape and the priests are serious in their devotional rites and never hesitate to put on an act for a tourist who donates.

The asphalt lake for which Trinidad is world-famous is in itself very disappointing to the photographer. But if you can build up a sequence with scenes made of men digging up the pitch and follow on through the plant and along the overhead conveyor that carries the barrels down to the steamers, it will be a feature. You would have to arrange to be there on a day when the steamer is loading to accomplish this.

Although Curaçao does not rightfully

(Continued on Page 150)



Native diving-boys, Barbados

PHOTOGRAPHY OF THE MONTH

WESTERN UNION

Twentieth Century-Fox Production
(Technicolor).

Directors of Photography: Edward Cronjager, A.S.C., and Allen Davey, A.S.C.

In "Western Union," directors of photography Edward Cronjager, A.S.C., and Allen Davey, A.S.C., have excelled themselves. They have turned out one of the most spectacularly beautiful examples of color cinematography we've seen in many months. Indoors and out, they make "Western Union" a visual treat.

The greater part of the action is played outdoors, and while the locations chosen are certainly not literal representations of the actually rather drab region in which the historical events depicted really happened, they give the color camera magnificent pictorial opportunities, of which Cronjager and Davey take full advantage. From beginning to end, "Western Union" is a pictorial delight. Composition, camera-angles and lighting in these sequences are all planned to get away from the flat effect so often seen in Technicolor exteriors. One early scene, for instance, is memorable. In this the action is played in the foreground, in a half-shadow, while contrasted against a brilliantly sunlit background of vividly-colored buttes. The lighting contrast in this not only adds to the pictorial value, but aids in concentrating attention on the actors.

While interiors are in the minority, they, too, are very well handled. Many of them are effect lightings, and Cronjager and Davey make excellent use of the possibilities offered for forceful lighting, especially of the male players. There are some close-ups of Randolph Scott, with his strongly modelled face the only touch of color against a background of rich, velvet-black shadow, which are worth particular study.

Inevitably there are a few flaws in the production. For example, both cutting and camera-treatment are at fault in one sequence in which Dean Jagger, after some lamp-lit scenes inside a tent, steps out into the night. The change from the warm tones of the lamplight to the colder bluish tones of the moonlight effect as the cutting reverses the angles on Jagger's exit comes so abruptly as to be rather a shock. Also, the projected-background process work could in some instances have been considerably improved.

NICE GIRL?

Universal Production.

Director of Photography: Joseph Valentine, A.S.C.

In "Nice Girl?" Deanna Durbin grows up. What's more, thanks to the skill of director of photography Joseph

Valentine, A.S.C., she grows up before your eyes in the course of the picture's 95 minutes of screening time. In the early sequences, Deanna is very much the youngster she has been for five years and eight pictures since Valentine's lens first introduced her in "Three Smart Girls;" but before the film is ended, she has matured to such extent that it is no shock to see her sipping champagne while appearing in remarkably sophisticated lounging pajamas.

And for this transition, it is Valentine's photographic skill, rather than any changes in make-up or costuming, that is responsible. He has handled it with subtlety, yet to such point that at the end one realizes that if Deanna keeps on making pictures, and Valentine photographing them, Universal will soon have a new glamor girl on its hands.

From the strictly photographic viewpoint, "Nice Girl?" is excellent, even though not as spectacular as some of Valentine's previous works like "Spring Parade." To this reviewer, however, "Nice Girl?" was in many respects the more satisfying of the two, for Valentine's camerawork and lighting had an effortless smoothness that are indicative of the work of a real master of the camera.

THE HARD-BOILED CANARY

Paramount Production.

Director of Photography: Theodor Sparkuhl, A.S.C.

"The Hard-Boiled Canary" is one of the most completely pleasing musical films we've seen this season: real music—and plenty of it—presented with outstanding sound-recording and excellent photography combine to make it outstanding eye-and-ear entertainment.

Unfortunately, Paramount previewed a print which had been knocking around the studio for several months and was in such bad condition that it is rather difficult to evaluate Theodor Sparkuhl's camerawork properly. However, one gains the impression that, while not perhaps on a par with his best work, his contribution to "The Hard-boiled Canary" is considerably more than adequate. Certainly, he presents young Susanna Foster more favorably than she has looked in previous appearances, and his treatment of the exteriors—and what a pleasant thing it is to see exteriors that don't all seem to have been made economically on a stage!—is excellent. His treatment of the interiors is excellent, indeed.

But the real stars of the picture are Recording Engineer Harry Mills and Re-recording John Cope. Between them they have turned out a recording job which will probably stand for a long time as the finest obtainable by con-

ventional methods. Had "The Hard-boiled Canary" been recorded in Fanta-sound, Stereophonic, or even one of the control-track multispeaker systems, this reviewer would not have been surprised: but to hear musical recordings with such magnificent tonal and volume range coming from a standard track is absolutely astounding. Inquiry proves that the music was originally recorded on a special 200-mil variable-area track, and then re-recorded to a strictly standard variable-density release-print track. Especially in their recording of the Grieg A-Minor Concerto, they have turned out one of the most magnificent recording jobs since pictures first began to talk.

The special-effects and transparency work in the film are excellent. The transparency work, of which there is a considerable amount, stands greatly to the credit of transparency-expert Farciot Edouart, A.S.C., even though by some mischance neither he nor any member of his staff received screen credit.

THE STRAWBERRY BLONDE

Warner Brothers Production.

Director of Photography: James Wong Howe, A.S.C.

This remake of a success of some five or six years ago—originally filmed as "One Sunday Afternoon"—is played more markedly for comedy than its predecessor. This treatment inevitably restricts director of photography Howe's treatment of the film to a considerable extent. None the less, within the limits of the rather routine treatment possible, he has handled the picture excellently.

It is interesting to realize that with the exception of a few sequences filmed on the studio back-lot, the entire production was done indoors on the stage. The entire sequence in the park, where James Cagney for the first time meets the two leading ladies, is an example of this. The park setting was constructed indoors, yet Howe's skill in lighting makes these scenes appear convincingly as though filmed outdoors. The night-effect lightings he obtains on some of these indoor exteriors are especially praiseworthy.

ADAM HAD FOUR SONS

Robert Sherwood Production, Columbia Release.

Director of Photography: Peverell Marley, A.S.C.

Marley had much to work with in making this film. The majority of the sets are large and sumptuous, while the action covers a wide range of emotional moods. His treatment of it definitely enhances both. The effect-lightings, of which there are many in the production, are particularly interesting.

WINNERS

For Best Photography

As determined by
The Preview Poll—
"HOLLYWOOD REPORTER"

BERT GLENNON

Director of Photography

WILLIAM V. SKALL

Technicolor Director of Photography

GUY ROE

Operative Cameraman

PAUL HILL

Technicolor Technician

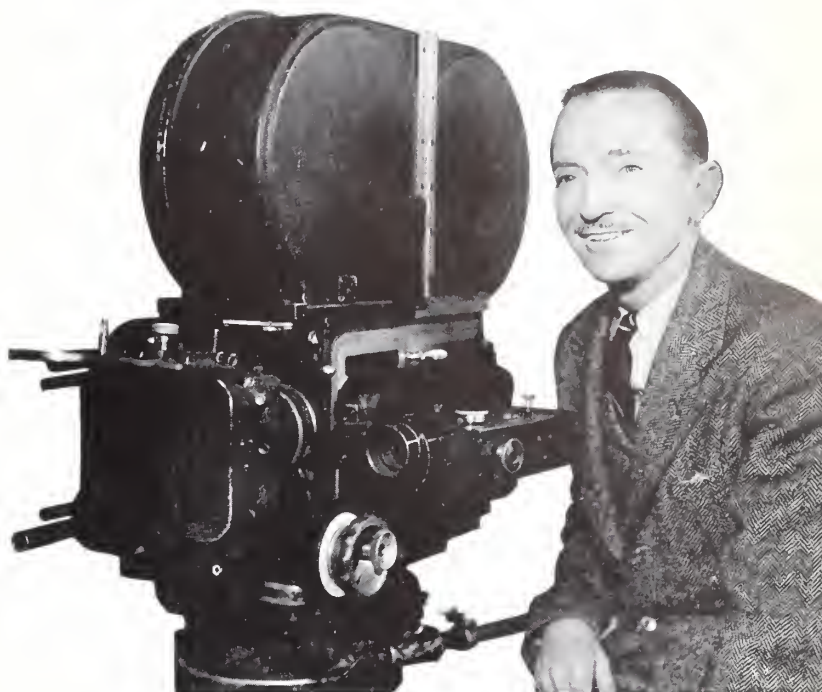
PAUL UHL

Assistant Cameraman

PARAMOUNT'S
Technicolor Production
"VIRGINIA"

EASTMAN

Negative-Sound Track-Positive
BRULATOUR SERVICE



Academy Award

(Continued from Page 103)

ing, to Anne Bauchens for "Northwest Mounted Police."

It may be noted, too, that the Award for the best one-reel short-subject, given to Pete Smith's "Quicker 'n a Wink," was to a picture which depended for its entire appeal upon a new development in photography. This unusual film was made to illustrate the unusual effects of super-slow-motion movies made by means of the Edgerton high-speed stroboscopic flash at camera-speeds up to 2,000 frames per second.

The non-technical Awards were: Outstanding picture, "Rebecca," David O. Selznick; Best Performance by Actor, James Stewart, "Philadelphia Story;" Actress, Ginger Rogers, "Kitty Foyle;" Supporting Actor, Walter Brennan, "The Westerner;" Supporting Actress, Jane Darwell, "The Grapes of Wrath;" Direction, John Ford, "The Grapes of Wrath;" Original story, Benjamin Glazer and John S. Toldy, "Arise, My Love;" Best Written Screenplay, Donald Ogden Stewart, "Philadelphia Story;" Best Original Screenplay, Preston Sturges, "The Great McGinty;" Best Original Score, Leigh Harline, Paul J. Smith and Ned Washington, "Pinocchio;" Best Scoring, Alfred Newman, "Tin Pan Alley;" Best Song, "When You Wish Upon a Star," Leigh Harline and Ned Washington, for "Pinocchio;" Best Cartoon, "Milky Way," Rudolph Ising-MGM; Best One-reel Short-subject, "Quicker 'n a Wink," Pete Smith-MGM; Best two-reel Short Subject, "Teddy, the Rough-rider," Warner Bros.

Special Awards were made to comedian Bob Hope for his unselfish services to the motion picture industry, and to Colonel Nathan Levinson for outstanding service to the motion picture industry and to the Army during the past nine years which made possible the present efficient mobilization of the motion picture industry facilities for the production of Army training films.

The Academy's usual special Irving Thalberg Memorial Award, given annually for the most outstanding production achievement by an individual producer, was not given this year as the Committee felt that no individual achievement was sufficiently outstanding to merit such an Award.

The Awards Banquet itself was precedent-making in that it marked the first time that the President of the United States addressed the motion picture industry. Speaking over a special radio network from the White House in Washington, D. C., President Roosevelt said:

"To my friends of the motion picture industry whose representatives are gathered from far and near for the annual awards dinner of the Academy of Motion Picture Arts and Sciences. In these days of anxiety and world peril our hearts and minds and all of our energies are directed toward one objective—that objective is the strengthening of our na-

tional defense. Every day that passes we realize that more and more things in our lives must be available in just such proportions as they contribute to the national defense.

"The American motion picture as a national and international force is a phenomenon of our own generation. Within living memory we have seen it born and developed. We have seen the American motion picture become foremost in all the world.

"Today our problem of national defense has become one of helping to defend the entire western hemisphere. You can no longer consider our own home problem of defense as a separate one. It involves the defense of all the democracies of the Americas and, in fact, it involves the future of democracy whenever it is imperilled by force or terror.

"An all-important factor in hemispheric defense of democracies is the Lend-Lease Bill, whose early enactment by Congress we anticipate. It is our place here and now to acknowledge the great service which the news-reels have performed in acquainting the public of America of the various legislative stages.

"The cooperation which has been shown by the three Americas in defending all the entire western hemisphere is the natural outgrowth of our own good neighbor policy, in our relations with the other American Republics. We have been seeking to affirm our faith in the western hemisphere through a wider exchange of culture and ideals, and through free expression among the various nations of this hemisphere. Your industry has utilized and is utilizing its vast resources of talent and facilities in a sincere effort to help the people of the hemisphere to come to know each other better. In carrying out the program of advancing continental defense, our government has established machinery to coordinate our growing commercial relations with the other republics.

"Our government is inviting you to do your share of the job of interpreting to the people of the western hemisphere their thoughts, to one another and all of us. All 21 republics in the Americas and Canada are grateful that your response is so immediate and so whole-hearted.

"I do not minimize the importance of the motion picture industry as the most popular medium of national entertainment. Tonight I wish to place the chief emphasis on the service you can render in promoting solidarity among all the people of the Americas.

"For all of this and for your splendid cooperation with all who are directing the expansion of our defense forces, I am glad to thank you. In the months and weeks that lie ahead, we in Washington know that we shall have your continued aid and support."

The President's address, coupled with the presence of Major General John O. Mauborgne, Chief Signal Officer of the Army, and other high-ranking officers of the Army and Navy, gave a new and serious significance to the motion picture industry's most important function, and

to the importance of that industry in the present national emergency. Possibly it was this thought, as well as the glittering assemblage of more than 1400 stars, directors, cinematographers, writers, executives and technicians which inspired Academy-president Walter Wanger in his brief introductory comment when, harking back to the founding of the Academy 15 years ago, he remarked, "It just shows what a Hollywood idea can do—when it's right."

National Defense

(Continued from Page 109)

The thorough-going magnitude of the industry's cooperation in this project may best be gauged by Col. Levinson's statement that as the Army's Hollywood movie-making project gets completely under way, as many as 20,000 members of the industry will at one time or another be cooperating. The amount of production envisioned may be estimated from General Mauborgne's statement that at present his office plans to spend close to a million dollars a year for Army Training Films "and," he adds, "the way every detail of the Army's program is expanding during the present national emergency, you needn't be surprised if our film budget should be expanded four-fold."

Movie-making is no new thing to the Signal Corps. During the last war there were many Signal Corps still and movie units in the field, many of them including men now members of the A.S.C., making a complete photographic and cinematographic record of America's participation in the war. Some few training films were made during that war, and immediately thereafter, too; the present list still includes a few subjects of this nature filmed in 1920-21.

But it is only within comparatively recent years that the Army has gone into motion picture production on an extensive scale. Beginning in 1930, the Signal Corps., at the invitation of the Academy, has sent one or more officers to Hollywood for intensive practical and theoretical training in all types of motion picture making—production, direction, cinematography, sound-recording, film-processing, sensitometry, cutting, and the like—under the guidance of the industry's leading specialists in these fields. First to come was Col. (now General) W. E. Prosser who after some nine months' practical instruction in Hollywood returned to active duty with the Army. As he was joined by other Hollywood-trained officers, the present Motion Picture Section of the Signal Corps' Photographic Section was organized.

During the intervening years, according to General Mauborgne, the Army's movie-makers have made from 20 to 40 training films annually. While recent developments in some phases of tactics and military equipment have naturally

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rendered some of these films obsolete, the Army's current list includes approximately 200 training films in active use.

"The value of these films for training large numbers of new troops will be obvious," General Mauborgne comments. "Suppose, for instance, we want to teach a group of selective service enrollees the assembly and operation of a machine-gun. The conventional method would be to assemble the men in a group around a skilled machine-gunner—usually a Sergeant—who would take a gun apart, put it together again, and fire it, explaining as he went along. No matter how well he explained things, his teaching would be of value to only the comparatively few men in the group who were close enough to see clearly what he was doing, and hear what he said.

"With a motion picture, on the other hand, we can show the same basic action to several hundred men at a time, making each detail absolutely clear by means of close-ups, animation, narration, and similar devices. Moreover, we can make as many prints of this film as we may need, so that we could be instructing several hundred such audiences at once.

"In some of the other, broader phases of modern military science, the motion picture is almost the only way we can bring home the broad picture to the student, whether he is a commissioned officer or an enlisted man. For instance, the cooperation of mechanized units, aviation, artillery and infantry in the field is a most essential part of modern mobile warfare. Yet in actual manoeuvres, the individual soldier in any branch, regardless of whether he is an officer or an enlisted man, cannot easily grasp the broad picture of the operation; his understanding is hemmed in by his personal horizon.

"But by a properly-made motion picture we can bring him the whole story of the operation, showing him on the screen just how his immediate duty of running a tank, handling a machine-gun or stringing a field telephone-line is integrated with each other part of the operation as a whole. Once he grasps this broader picture of the problem, he is a far more valuable man in his individual capacity. Only by motion pictures can we bring him this broad picture.

"Let me say, too, that these pictures will be thoroughly up-to-date from a military standpoint. The U. S. Army has had, and still has, its observers with the various forces in the present war abroad. Their reports are enabling the various branches of the service to keep thoroughly abreast of developments. Our motion pictures will naturally reflect that progress and bring it in clearly understandable form to the men in the field."

Some of the films it is stated, can be made more conveniently by the Signal Corps' existing motion picture units; others will demand technique and facilities which can only be found in

Hollywood; still others may probably require the cooperation of both. There can be no set form for these films. Some subjects can best be made as silent pictures, with an explanatory narrative added. Others may require dialogue, sound-effects, music and every embellishment of a professional production. In the same way, some films may call for a strictly factual presentation, while others would have enough of a story to give the film a sugar-coating of entertainment as well as instructional value.

We know we are by no means the first to use motion pictures for this purpose. The Germans, for example, who have long been keen students of the educational use of movies, have during recent years been known to be making intensive use of such films for military training purposes. The use of these films probably explains in some part the remarkable speed of Germany's rearming. But no other nation in the world has such a concentration of outstanding creative and technical motion picture talent as our own country, for there is only one Hollywood. And with the help that Hollywood is already giving the Army is confident of obtaining even superior results.

The Signal Corps is the Army's centralized agency for making films for all branches of the service, though certain of the other branches, like the Air Corps, for example, have their own Photographic Sections. The production of a present-day Army film therefore begins when the Chief of that particular branch makes a request to the Chief of Staff for the production of such a picture. If the request is approved, the matter is then turned over to the Motion Picture Section of the office of the Chief Signal Officer, and arrangements are made for the film's production. If this is to be done through the motion picture industry, the Army's resident liaison officer in Hollywood, Major Charles S. Stodter of the Signal Corps, who as a lieutenant was among the Army's first Hollywood trainees, calls into conference Col. Levinson and his associates on the Research Council and the Motion Picture Producers' Defense Committee, to lay definite plans for making the picture.

One or more officers from the branch or branches of the service involved will then be assigned to duty in Hollywood, to collaborate in the preparation of the script and to act as technical director of the film. At present, it may be mentioned, two officers are on such missions with the industry—Col. Gordon P. Savage, of the Infantry, and Major John L. Ballantyne, of the Cavalry, who are aiding in the preparation of a film dealing with the cooperation of motorized cavalry and light machine-gun platoons.

The script finished, it is submitted to the Chief of the branch or branches of the Army for which the film is being made. Once the script is approved, the picture goes into production like

any other of Hollywood's products, with of course the single exception that War Department secrecy is necessarily involved in every step. When the film is completed, it is submitted to the inspection and criticism of the chief of the arm involved and, if approved, is turned over to the War Department. Release-prints are made in both 35mm. and 16mm., according to the intended use of the picture. In some instances, studio or commercial laboratories may make these prints; the Eastern plant of Consolidated Film Industries, and the DeLuxe Laboratory, of New York, have both made release-prints of the present Army films. In other instances, part or even all of the printing may be done in the Army's own two motion picture laboratories at Wright Field and Ft. Monmouth.

Some idea of the efficient mechanism set up for this production may be gained from the General's statement that in the making of the first Hollywood-made Army Training film, between receipt of official approval to make the film and the start of actual shooting, only ten days elapsed, while Director Ford and Director of Photography Barnes brought the three-reel production to completion in less than the allotted shooting schedule, and considerably under the planned \$8,000 budget.

The present Signal Corps motion picture project is fourfold. Within the service already are two well-equipped and well-trained motion picture units, with laboratories established at Wright Field and Ft. Monmouth. As the Army grows, it is planned to expand the Signal Corps Photographic Section so that a mobile Field Photographic Unit, completely equipped and trained for all types of still and motion picture camera and laboratory work, can be attached to each army. In doing this, both the enlisted and officer personnel of the Signal Corps must inevitably be greatly expanded. The Signal Corps, already short of photographically trained officers, is planning to set up in the near future its own specialized Officers Training Camps. Here volunteers, and especially photographic and motion picture trained selective service enrollees will, on the completion of a minimum period of enlisted service, be given training to qualify themselves for commissions in the work in which they specialized in civilian life.

In addition, the nucleus of a GHQ Photographic Unit is at present being formed in Hollywood (see *AMERICAN CINEMATOPHOTOGRAPHER*, February, 1941, P. 94). This basic unit will consist of experts in every phase of production, including photography, cinematography, sound engineering, laboratory work, editing, and the like, chosen from the industry's studios with such care that no one studio would be denuded of its trained personnel in case the unit enters active service. Although this unit is now being organized, it is, so to speak, planned as a group of motion

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Sound Kodascope FB is identical to the Model F except that the projector is designed for operation from within its own case, which serves as a sound "blimp." Price, with standard equipment, \$400.

Note. Five other lenses—a 1-inch $f/2.5$, a $1\frac{1}{2}$ -inch $f/2.5$, a 2-inch $f/2.5$, a 3-inch $f/2$, and a 4-inch $f/2.5$ —are available as accessories or may be specified on ordering, at slight price variation.

Sound Kodascope FB-25—(Illustrated here) Operates, on either A.C. or D.C., from within its own case which, when closed, effectively kills mechanical noise. Available with single 12-inch permanent magnet speaker in separate case, or with a twin unit incorporating two such speakers. Microphone or phonograph jack. Excellent for average church, school, convention, or club assembly. Price, with single speaker, 2-inch $f/1.6$ lens, and 750-watt lamp, \$425; with double speaker, \$450.

Sound Kodascope FB-40 is the projector for use with the largest audiences capable of being served by 16 mm. movies. Twin speaker only, and A.C. only. Jacks for both phonograph and microphone and provision for mixing both with the film's sound. Complete, with 2-inch $f/1.6$ lens and 750-watt lamp, \$520.

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picture "minute men;" no one is being asked to formally enlist at this time, and its members would be called to serve only in event of actual war. The GHQ Photo Unit would serve as a base unit supplementing the Field Units, though its members might on occasion be sent into the field on special assignments, or detached to form the veteran nucleus of an expeditionary unit.

Finally there would be Hollywood itself, with the resources of the motion picture industry thrown into the making of further films as might be needed.

Much of that, however, is in the future. For the present, Hollywood's post in the National Defense Effort is the important one of making films to train America's growing army. And Hollywood is already doing this enthusiastically and efficiently. As General Mauborgne expresses it, "The motion picture industry is performing an essential job in the National Defense, and doing it as no other industry could. We have been making motion pictures in the Signal Corps Photographic Section long enough so we know that we can turn out a given footage for less money than our Hollywood-made films are costing. But it would be only a comparable *footage*; it would not be a comparable *picture*. Only by turning to the great group of world-leading creative and technical specialists who form the motion picture industry could we get our ideas put on film with the skillful touch which has made Hollywood the center of the world's motion picture production.

"In most instances of military procurement, we necessarily have to call for competitive bids, to assure efficient expenditure of the money available. But here we find every producer and organization in the industry cooperating to give us what we want, with no slightest thought of profit or personal glory. The only rivalry between producers, directors, cinematographers, writers and all the many other specialists whose aid we so greatly need seems to be to find who can give us the most. Thanks to the untiring efforts of Col. Levinson, Lt. Col. Zanuck, and Capt. Mitchell, when the present national emergency arose and we turned to the industry for help, we found the industry mobilized and ready for action. We can none of us foretell what the future may hold for America, but we can be sure that Hollywood is doing its part to assure the U. S. Army of training films that will help make the American soldier the best-trained in the world."—END.

Williams Lab.

(Continued from Page 110)

laboratory. In the Williams Process of composite or trick photography, it will be recalled, extremely precise control of the density and contrast of the travelling mattes was essential, and Williams found it necessary to do his own processing to obtain this control. When sound entered the industry, it was but a step to yield to requests that he lend his

facilities to the exacting requirements of sound-track processing.

In conjunction with Williams' special-effects cinematographic work, he points out, the various film manufacturers had evolved special fine-grain positive and other emulsions to his order. Experiments in using some of these emulsions for recording, for the making of dubbing-prints, and similar uses, followed, first as a matter of curiosity, and later because of the improved results obtained, with the result that some studio sound departments began to order these emulsions for their own use. As a result, both sound engineers and film manufacturers began to study the possibilities of these emulsions, and today Williams proudly points to the fact that every one of today's many fine-grain emulsions is either a product developed for his use in special-process cinematography several years ago, or a type evolved from one of these original products. Meanwhile his plant has been, and still continues using these emulsions for sound and picture purposes wherever they have been found beneficial, and the plant is today one of the few completely equipped and accustomed to handle any type of fine-grain printing or processing.

END

Ray Rennahan

(Continued from Page 108)

tographers as partners. We also run the fullest possible range of production conditions and subject-matter. One day, for instance, I may be working on a really big major production like 'Gone With the Wind' or my present assignment, 'Blood and Sand': a few days after that assignment closes, I may be sent to some other studio to direct the photography of a little three-or-four-day short-subject, or even a commercial film, in either of which instances time and resources are likely to be as limited as they were abundant on the major studio 'special.'

"This constant change means you don't have any chance of getting into a rut, technically or artistically. One day you're working on a big picture where time and money hardly count, and the main thing is to achieve perfection in each scene. The next, you have to slap it out fast, cutting corners wherever you can to save a few moments or a few dollars — and the results on the screen have still got to be good!

"About the only variable we miss that a free-lance monochrome cinematographer has to contend with is constantly changing from the processing standards of one laboratory to those of another. All of our work must of course be processed by the Technicolor laboratory. Still, what with advances in negative sensitivity and constant improvements in negative processing and printing methods, our lab has certainly done its bit to keep us from getting mentally stagnant!

"And I think everyone will agree that that laboratory has done a remarkable job. When you consider the technical problems involved in any type of color-

photography, and the variables involved in developing three negatives, balancing prints from the three to form a complete three-color positive, and the innumerable peculiar habits of even the most perfectly standardized dyes, you'll realize what a job they have. And in spite of it all they've refined the process to a point where today we accept consistently good color-prints as a matter of routine.

"Even within the past couple of years, processing improvements have made an enormous difference in the freedom with which anyone who photographs Technicolor can work. Just a few years ago, for instance, shadows were something which, unless you were in a position to gamble on results, most of us preferred to avoid. Today we can use shadows in Technicolor—not only that, but they are richer than the best obtainable in black-and-white, for we can get real, healthy blacks, and add to it the heightening effect of color-contrasts. Any colored object—a face, a hand, a dress—stands out more vividly when contrasted with one of the velvety shadows today's Technicolor can give you.

"And speaking of faces, there's one thing that tends to suffer under some of the production methods used by some studios making Technicolor pictures today. Any cinematographer knows the importance of make-up and of thorough understanding and cooperation between the make-up artist and the director of photography. In Technicolor, it's doubly important, the more so because good color make-up is a comparatively new thing, and one which can be learned only by experience. I don't think the make-up artist lives who can do a really satisfactory job on his first color picture. He's got to learn the restraint necessary for good color make-up.

"Of course with the constantly increasing number of color productions being made, more color-trained make-up artists are being needed, and men who have not previously had experience with color make-up must somehow be given the chance to get it.

"But when, perhaps only a short time after finishing a Technicolor picture at a studio, you return to that studio for another picture and find an entirely different man in charge of the picture's make-up—well, it doesn't seem quite logical to me. Especially when you find—as I have on many occasions—that the make-up man you worked with before, and carefully trained in the requirements of color make-up—is still on the studio's payroll and without an assignment. You'd think the studio executives would naturally put the man with color experience on their color production, wouldn't you? After all, in addition to deciding in the first place to enhance that production with color, the studio has gone to considerable trouble and expense assigning a production cinematographer like Ernest Haller, A. S. C., or Ernest Palmer, A. S. C., and a Technicolor cinematographer like me or one of the other Technicolor staff cinema-



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tographers to the picture. We're supposed to see to it that the players' faces are presented in color to the best advantage on the screen; but we can't do it if those faces aren't correctly made up.

"I'll admit its all to the good that as many make-up artists as possible be trained in color make-up. But letting them teach themselves by trial and error on actual production doesn't make very good sense to me. Wouldn't it be a lot better to assign the man they knew to be experienced in color as make-up man on the picture, and then let the man they wanted trained work with him as a sort of junior associate? In that way, the production would be assured correct make-up and normal faces from the start, and the make-up man would learn by doing things the right way, rather than by hit-or-miss experimentation.

"Really, the day of radical technical experimentation in Technicolor is over. Of course technical advances are coming, but we'll be able to take them in stride. Meanwhile, there have been enough Technicolor productions made in almost every major studio so that we've built up a mighty good backlog of technical knowledge. The technical factors involved in making a satisfactory Technicolor production are now almost as familiar as those involved in doing the same scene in monochrome.

"But speaking as a cinematographer, I'm very sure we haven't even begun to scratch the surface of the things we, as artists, can do with color. All of us who have worked at all with color—and most of those who haven't had that opportunity, as well—have ideas which, once the right production opportunity arises, we want to try out. With the constantly increasing number of Technicolor productions being made, the opportunities for putting into effect more and more of those ideas are going to present themselves. On some productions we can make use of the added literalness of color for greater realism. On others, we can make use of the added beauty of color for greater pictorial effect. And on yet other productions we can cinematic language, making use of color to heighten any dramatic mood, just as in monochrome we use lighting for mood and effect. The basic tools are ready and familiar in our hands: and as we learn to use them completely, I am confident we will see cinematography go on to new heights of beauty and dramatic expressiveness, for color, added to form, tone and motion, gives us the completely expressive medium of which for nearly fifty years cinematographers have dreamed. Technical advances will come, but in the long run, we will find the real future of color cinematography in the hands of the cinematographers!" **END.**

Landers Moving

Sam Landers, A.S.C., proprietor of the well-known Landers Camera Rentals, announces that on and after March 9th his firm will occupy new and larger quarters at 6373 DeLongpre Ave., (near Nvar), Hollywood.

Natural Lighting

(Continued from Page 105)

ground by the fire, and concealed by the men sitting in the left foreground. Lamp No. 2, a Dinky, similarly placed, illuminated the man standing at the left, while No. 3, another Dinky, highlighted the two men sitting (left) by the fire. Lamp No. 4, a Baby Keg placed high on the lamprail, at the back left, was used to rim-light the players at left and center-foreground. Extremely soft front-lighting was provided by lamp No. 5, a heavily-silked broad.

The background was highlighted by lamp No. 6, a Baby Keg placed high at the right and crossed, while the backing was illuminated by No. 7, another silked broad.

The point which I hope these somewhat obvious examples discussed will make is this: that these natural source-lighting effects, together with many similar ones they will suggest, would have been absolutely impossible previous to the introduction of today's high-speed emulsions and the smaller lighting-units the speed of these films make possible. I am very sure that many scenes closely paralleling the photodramatic requirements of the ones discussed have come up frequently in the past experience of almost every cinematographer. If we look back at them, we can see from our own experience just how badly we were hampered by the technical limitations of the materials with which we then had to work—how we were forced to approximate the "natural" effects we wanted, rather than obtaining them in actuality.

In this connection, a rather interesting thought strikes me. Cinematographers have always looked forward to the day when they could get truly natural light-effects, and employ substantially natural levels of illumination. Today, thanks to these modern technical developments, we have come incredibly close to being able to achieve this long-sought goal. While average interior light-levels are of course subject to considerable variation, due to differences in the methods of individual directors of photography and to the processing standards of the different laboratories which handle their film, a surprising majority are working only slightly above normal practical room-lighting levels. As a matter of fact, I am informed that some cinematographers who work under conditions permitting exceptionally low light-levels have at times had to wire the practical lights in their sets through dimmers in order to cut down the intensity of these normal lamps to match the levels of the photographic lighting!

Finally, it should be pointed out also that this remarkable development of the past few months has in addition to its artistic benefits, very definite technical and economic advantages as well. By eliminating the need for high illumination levels and the larger and bulkier lamps necessary to obtain them, we have at the same time eliminated the necessity for many of the makeshifts

formerly necessary to make these larger lamps adaptable to the fine, precision lighting these effects demand. I doubt if the precise difference in either time or production-cost has been or, for that matter, could be accurately estimated. But it must be obvious that the time formerly spent in figuring out how to position a large lamp so it would produce some of these precision effects just discussed, without interfering with any other phases of the lighting on people or set, and then confining its beam to the exact small area where the light would be needed, by means of goboes, flags, shades and similar auxiliaries—to say nothing of reducing it to the right intensity by means of diffusers and the like—would be very considerable when compared to the modern method of simply concealing a Dinky within the scene at whatever point might be necessary to produce just the right effect.

Summing the matter up, we can consider ourselves most fortunate that we can today reap the benefits of these recent advances in film, lenses and lighting equipment, which on the one hand make it possible at last to light with the precision necessary to obtain really natural lighting effects, and on the other, so greatly simplify and expedite the work of the director of photography and his stage crew. In all probability we have not as yet been using these new materials and methods long enough to obtain—or even understand—their full benefits; but even so, we can realize that we have in our hands something which must inevitably lead on to genuine advancement in the art and science of cinematography. **END**

Editor's Finder

(Continued from Page 114)

par, that was his fault — the film couldn't be to blame!

Today, how different is the situation! With three or four different companies actively competing for the industry's raw-stock business, the film-using technician—cinematographer, recordist or laboratory expert—has everything offered him on a silver platter. Film—? There's lots of it: specialized emulsions for every conceivable service. A few months ago, setting out to make photographic tests of one single company's picture-negative emulsions, this writer found himself provided with no less than *eight* different emulsion types, including normal-speed panchromatic, high-speed "production type" panchromatic, super-speed panchromatic, a slow-speed "outdoor type" pan, a fast ortho "chrome" type, a reversible panchromatic, and infra-red. The recording engineer has an almost equally broad selection: he can choose an emulsion specifically fitted to the particular recording problem and system involved. Even in the most recently-evolved "fine-grain" positive and recording stocks, there seems to be an emulsion to suit everyone's individual needs: in a recent chat with the writer, one leading film-merchant remarked that his company handled no less than

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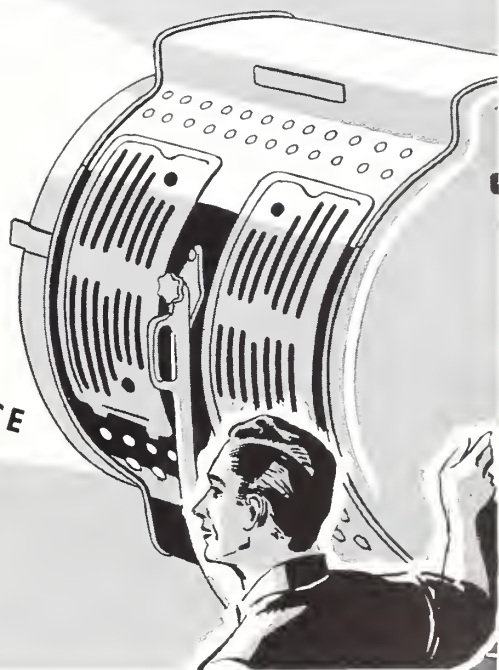
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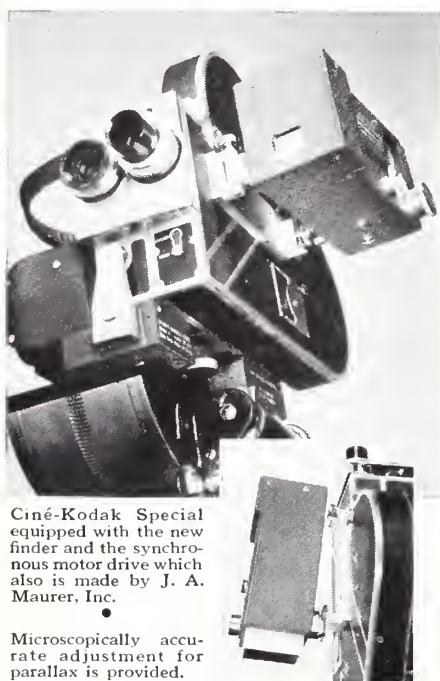
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for "Thief of Bagdad" (Color)

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product. We've known of instances in which these men have ordered the calling in of an entire emulsion and its free replacement with a better coating—a matter of several million feet of expensive film which only a few years ago would have been defended as "good enough." Does your laboratory need hints on how to get the best out of your negative—? Again the film expert steps into the breach for you. Don't forget that the first and for a long time the only sensitometers in Hollywood were those installed by the raw-stock firms, and which are still operated, day or night, without charge to help the users of film.

Yes, the sales or technical representa-

tive of a modern raw-stock company is a good fellow. He's a fine partner at golf or bridge, and a good conversationalist at the lunch-table. But he's more than that—he is today a man without whom the technical and creative activities of every film-user in the industry would be crippled: a man who gives an indispensable service, and gives it cheerfully, without hope of reward or publicity. Again—we wonder if we really appreciate these men and the vital, if unsung part they play in making our work with camera, recorder or developing-machine a success?

Growing Pains

(Continued from Page 107)

even *Fantasia*—they become inevitable.

The *Silly Symphony* series was launched in 1929. In *Mickey Mouse* cartoons, we kidded the modern scene. The material was limited. We wanted a series which would let us go in for more of the fantastic and fabulous and lyric stuff. The *Silly Symphony* didn't give Mickey much competition until we added Technicolor in 1932. We thought that color would be worth the heavy extra cost. Color was part of life. A black-and-white print looked as drab alongside *Flowers and Trees*, as a gray day alongside a rainbow. We could do many things with color! We could do many things with color that no other medium could do.

I remember Roy coming into the office about this time with a bunch of figures in one hand and eyes full of patient resignation. "How come," began Roy, "how come that last year with thirty men we made thirty pictures, and this year with over a hundred and fifty, you get out only eighteen?" I can't answer that type of question, but the surest way to take Roy's mind off past and present troubles is to tell him that we need a lot more money in the immediate future. Roy has the greatest confidence in me, in our medium and in our future, but he is a business man and doesn't like to live dangerously twelve months out of the year. In this instance, three little pigs and a big, bad wolf were soon to bring him days of peace—not many days, but a few.

The Three Little Pigs was released in 1933. It caused no excitement at its Radio City première. In fact, many critics preferred *Noah's Ark* which was released about the same time. I was told that some exhibitors and even United Artists considered *The Pigs* a "cheater" because it had only four characters in it. The picture bounced back to fame from the neighborhood theaters. Possibly more people have seen *The Pigs* than any other picture, long or short, ever made. So you get an insight into the short-subject business when I tell you that *The Pigs* grossed only \$125,000 its first year. *Snow White* grossed over seven million. That's the difference between shorts and features from the profit angle. The low rentals for short sub-



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jects has been a chronic headache for us. Our only solution has been to build our prestige through quality to the point where public demand forced the exhibitor to pay more for our product. Theaters paying two or three thousand a week for a feature may pay us only a hundred or a hundred and fifty dollars for a short. Gentlemen, I ask for justice.

Whatever the reason for *The Pigs'* astonishing popularity, it was an important landmark in our growth. It nailed our prestige way up there. It brought us honors and recognition all over the world and turned the attention of young artists and distinguished older artists to our medium as a worthwhile outlet for their talents. We needed these men for

future growth, and they came from all over the country to join our staff and be trained in our ways.

The success of the *Three Pigs* was felt throughout our entire business. The income from all our pictures and from merchandising royalties took a sharp upswing. The magazine *Fortune* declared that our net profit for 1934 was \$600,000 and I'll take their word for it. That's chickenfeed in Hollywood, but we are strictly small fry. We poured the money back into the business in a long-range expansion program pointing at feature-length production and the protection of our new prestige through constantly increasing quality. The *Mickeys* went Technicolor. We enlarged our training

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Hollywood

Bound Brook, N. J.

New York

school and began a nation-wide advertising campaign for young artists. The production costs on our *Symphonies* shot skyward until some of the little pictures approached the ridiculous figure of \$100,000. But the quality was there, and by 1935 even the *Three Little Pigs* looked dated and a bit shabby in comparison with the newer *Symphonies*. Our staff at this time numbered around three hundred. A greater degree of specialization was setting in. The plant was becoming more like a Ford factory, but our moving parts were more complex than cogs—human beings, each with his own temperament and values who must be weighed and fitted into his proper place. I think I was learning a great deal about handling men; or perhaps the men were learning how to handle me. But let me tell you this—young artists are just as reasonable and easy to handle as anybody else. Our temperament goes into our job.

We had our technic well in hand. We had learned how to use our tools and how to make our characters act convincingly. We had learned a lot about staging and camera angles. We knew something about timing and tempo. But a good story idea, in our business, is an imponderable thing. It seems to be largely made up of luck and inspiration. It must be exceedingly simple to be told in seven or eight hundred feet. It must, above all, have that elusive quality called *charm*. It must be unsophisticated, uni-

versal in its appeal and a lot of other things you can't nail down in words but can only feel intuitively. *The Three Little Pigs*, *The Flying Mouse*, and *The Grasshopper and The Ants*, were examples of good stories. I used to feel at times that there wasn't another good story idea left in the world which could be told in eight hundred feet. The length limitation of the *Symphony* became more and more galling. We were battling story ideas around for months and sometimes years trying to get the certain twist, the lacking element, or whatever the idea needed to make it a good story. Our files were filled with abandoned stories on which we had spent thousands. It was inevitable that we should go into feature-length pictures if only for the unlimited new story material this field held for us.

I thought we could make *Snow White* for around \$250,000. At least that's what I told Roy. The figure didn't make sense because we were spending about that much on every three *Symphonies* or 2500 feet of picture. Roy was very brave and manly until the costs passed a million. He wasn't used to figures of over a hundred thousand at that time. The extra cipher threw him. When costs passed the one and one-half million mark, Roy didn't even bat an eye. He couldn't; he was paralyzed. And I didn't feel very full-blooded, either. We considered changing the name of the picture from *Snow White* to *Frankenstein*. I believe that the final figure, including

prints, exploitation, etc., was around two million. We sort of half-way explained this to everybody by charging a million of it off to research and development. You know, building toward the future. And this was true, although we hadn't exactly planned it to be that way. Webster sums up the spirit of the *Snow White* enterprise in his definition of adventure at the beginning of this article—"risk, jeopardy; encountering of hazardous enterprise; a daring feat; a bold undertaking in which the issue hangs on unforeseen events, etc."

As a matter of fact, we were practically forced into the feature field. We not only had to have its new story material, but also we had to have feature profits to justify our continuing expansion, and we sensed that we had gone about as far as we could in the short-subject field without getting ourselves in a rut. We needed this new adventure, this "kick in the pants," to jar loose some new enthusiasm and inspiration.

Research and preliminary work in a small way had begun on *Snow White* as early as 1934. I picked that story because it was well known and I knew we could do something with seven "screwy" dwarfs. Beyond that, we didn't know exactly where we were going, but we were on our way. The picture was released at the turn of the year, 1937-38. At the end of its first year, *Snow White* and the *Seven Dwarfs* was reported to be the biggest money-maker of all times. It at least settled the question as to

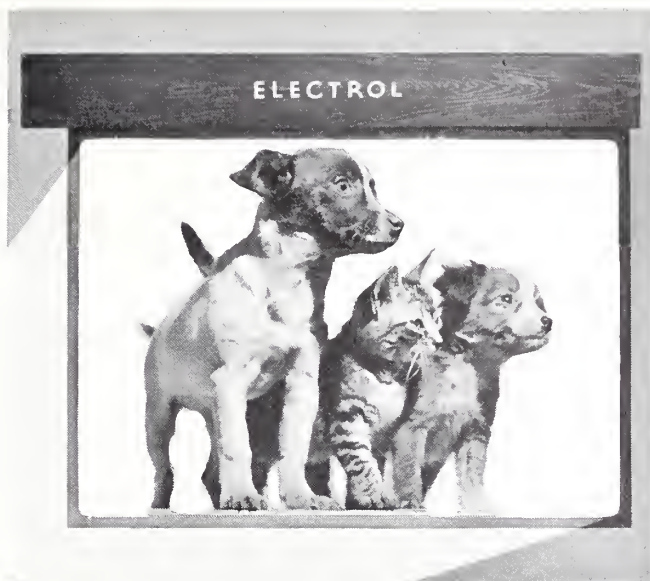
whether or not an audience could or would sit through an hour and thirty minutes of animated pictures. Most of the bets were that an audience would go blind. As a matter of fact, that question had been settled as early as 1935, when European audiences lined up in long queues to see a two-hour bill of our shorts. This bill ran for seventeen weeks in Stockholm, and similar all-cartoon bills have been quite successful in this country.

At the time of *Snow White's* release, our staff had grown to about six hundred. Having committed ourselves to a program of both features and shorts, it became necessary again to expand drastically. An additional eight hundred people were added to our payrolls in the next two years. For more studio space, we were forced to lease a row of apartment houses adjoining the studio, and other temporary buildings were erected on the lot. We needed a new studio and in a hurry. Not only did we need more space and more buildings, but the increasing emphasis on the technical side of our craft demanded the most modern and specially designed type of buildings and equipment. The new plant was started in 1939 on fifty-one acres near the Los Angeles River in Burbank. We moved in around the first of 1940.

The two years between *Snow White* and *Pinocchio* were years of confusion, swift expansion, reorganization. Hundreds of young people were being trained and fitted into a machine for the manufacture of entertainment which had become bewilderingly complex. And this machine had been redesigned almost overnight from one for turning out short subjects into one aimed mainly at increased feature production.

Produced under such conditions and forced to bear its share of this tremendously increased overhead during a two-year period, *Pinocchio* cost something over three million dollars. Suddenly, the world war wiped out half our markets. *Pinocchio* is yet to return its original investment. It has been called a flop. Actually it was the second biggest box-office attraction of the year. *Gone with the Wind* was first. *Pinocchio* might have lacked *Snow White's* heart appeal, but technically and artistically it was superior. It indicated that we had grown considerably as craftsmen as well as having grown big in plant and numbers, a growth that is only important in proportion to the quality it adds to our product in the long run.

The large profits from *Snow White*, short subjects, and the mounting royalties from our merchandising enterprises, had all gone back into the business to pay for the new studio and expansion program. Our payroll had risen to around three million a year. The war had cut our potential picture profits in half. The crisis was on. Another one. It was brought on by what might reasonably be called reckless expenditures. Yet, looking at it our way, it is these expenditures that have put us in shape



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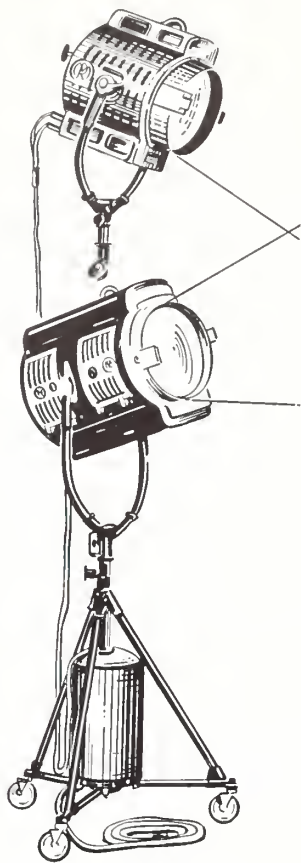
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for the storm. Instead of the one feature-length picture every two years which seemed the limit of our capacity two years ago, we are now reorganized and equipped to release nine features in the next two years, each at a fraction of *Pinocchio's* cost.

The first of these nine features, *Fantasia*, has been released. We have never been so enthusiastic about a picture. Every picture is an adventure, but *Fantasia* has certainly been our most exciting one. We take great music and visualize the stories and pictures which the music suggests to our imaginations. It is like seeing a concert. Leopold Stokowski and the Philadelphia Orchestra re-

corded the music, using a new system of sound recording and three-dimensional reproduction called *Fantasound*. It is our intention to make a new version of *Fantasia* every year. Its pattern is very flexible and fun to work with—not really a concert, not vaudeville or a revue, but a grand mixture of comedy, fantasy, ballet, drama, impressionism, color, sound, and epic fury.

Mickey Mouse and Disney in the same boat with Bach, Beethoven, Stravinsky, and Stokowski! Well, where do we go from there? I haven't the faintest idea. I have never had the faintest idea where this business would drag me from one year to the next. It's at the controls,



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not me! But, as I said before, as long as we keep on growing the future will keep opening up. More than any other picture, *Fantasia* shows how much the medium has grown. No doubt, some unimaginative critics will predict that in *Fantasia* the animated medium and my artists have reached their ultimate. The truth is quite to the contrary. *Fantasia* merely makes our other pictures look immature, and suggests for the first time what the future of this medium may well turn out to be. What I see way off there is too nebulous to describe. But it looks big and glittering. That's what I like about this business, the certainty that there is always something bigger and more exciting just around the bend; and the uncertainty of everything else.

Over at our entertainment factory we are training hundreds of brilliant youngsters to carry on the job far beyond where we old-timers must leave off. They will train other youngsters. There is no knowing how far steady growth will take the medium, if only the technicians continue to give us new and better tools. For the near future, I can practically promise a third-dimensional effect in our moving characters. Fully exploited, *Fantasound* should prove a startling novelty. The full inspiration and vitality in our animators' pencil drawings will be brought to the screen in a few years through the elimination of the inking process. This is the promise of the next few years, beyond that is the future which we cannot see, today.

AMONG THE MOVIE CLUBS

Synchronized Sound in Philly

February meeting of the Philadelphia Cinema Club showed a 16mm. Kodachrome film, "A Night in Florida," synchronized to music and speech by means of an inexpensive indicator attached to the turntable, demonstrated by the Club's Secretary, George Pittman. Other principal feature of the evening was the presentation by program-committee Chairman Francis Hirst of the recently-announced Eastman Kodak Co. Lecture on "What Can We Learn from the Professional Producer?" Complete analyses of the winning films in the Club's recent contest were presented, and plans were laid for attending en masse the first banquet of the nearby Trenton, N. J., Movie Club.

GEORGE A. PITTMAN, Secretary.

L. A. Sees 3-Club Exchange Show

The February meeting of the Los Angeles Cinema Club was featured by exchange of films with two other clubs. The Los Angeles 8mm. Club loaned three of the prize-winning films from their Annual Contest—"Reaping the Raindrops" (Kodachrome) by Lewis B. Reed; "Blas-to," (black-and-white) by Paul W. Cramer, and "Souvenir," (Kodachrome) by

Harold E. Remier. An entertaining added feature was a special showing of a 50-foot 8mm. reel on "Common Movie Errors," made by Thomas Griberg, of Moline, Ill., and obtained through THE AMERICAN CINEMATOGRAPHER on loan from the Tri-City Cinema Club of Rock Island and Moline, Ill., and Davenport, Ia.

Major features of the evening were showing of the 16mm. Kodachrome sound-film "Sailplane," described in last month's issue of this magazine by its maker, James H. Love, and "In All the World," feature-length Kodachrome sound film of Glacier National Park filmed by William S. Yale, of St. Paul. (See P. 116.)

JACQUES SHANDLER, Secretary.

San Francisco Has Varied Program

Features scheduled for the February meeting of the San Francisco Cinema Club included a 400-foot Kodachrome film on "A Pack Trip in the High Sierras," by Member Fred Youngberg; a 200-foot 8mm. Kodachrome film entirely of flowers, filmed by Member H. T. Hennig; and a 600-foot. 8mm. black-and-white film made by prospective member N. Schwartz in Europe imme-

diately before the war, and including scenes in France, England, Italy, Germany and Switzerland, and presented with a running commentary by its maker. The Club's March meeting, it is announced, is to feature a contest on "Home and Family."

JOHN B. SMURR, President.

Tri-City Cinema Club

February meeting of the Tri-City Cinema Club (Rock Island and Moline, Ill., Davenport, Ia.) featured presentation of Eastman's new illustrated lecture on "What Can We Learn from the Professional Producer?" and the showing of "Spring, Summer, Autumn," 400-ft. 16mm. Kodachrome by O. C. Peterson, Davenport; "How to Use Your Camera," from the Harmon Foundation; and various films submitted by club members.

ALBERT N. MUELLER, M.D.,
President.

Minneapolis Celebrates 5th Birthday

On February 18th, the Minneapolis Cine Club celebrated its fifth anniversary with a dinner at the Hasty-Tasty Cafe, under the direction of the newly-elected program committee chairman, Russ Duncan, with Walter Briggs as MC. Film fare included films of the Club's early years, gathered by President Davidson; a duck-hunting reel

contributed by Ormal Sprungman; and a lecture on lights, lighting, film and filters by Barney Skomars, of the Eastman Kodak Stores.

ROME A. RIEBETH.

L. A. 8mm. Has Old-Timers' Nite

The February meeting of the Los Angeles 8mm. Club was under the direction of co-founder Claude W. A. Cadarette, who prepared a special program of outstanding early films made by some of the Club's first members. Included among these were "El Camino Real," by John E. Walter; "Jealousy," by Claude Cadarette; "The Insomniac," by co-founder Milton Armstrong; and Dr. F. Robert Loscher's AMERICAN CINEMATOGRAPHER Contest Grand Prize Winning, "Red Cloud Lives Again." As a special, added attraction a 16mm. sound Kodachrome film, "In All the World," filmed by William S. Yale in Glacier Park, was shown. New members admitted to the Club included Raymond Daum, Gaetano Faillace, Gertrude Millar, J. F. O'Brien and John Strong.

BETTY BARNEY, Secretary.

Australia Hears Sherlock

Bulletins from the Australian Amateur Cine Society indicate that the Society's January meetings included a pre-

miere showing of James A. Sherlock's film "The City of Sydney," and Ken Murray's films, "Swiss Towns in Winter," and "London in Wartime." The February meetings scheduled a talk on filtering for both monochrome and Kodachrome by J. A. Sherlock, and revivals of "Sunshine Over Sydney," and Tsukamoto's "Autumn Around Fuji."

Meters for St. Paul

Scheduled speaker for the February meeting of the St. Paul Amateur Movie Makers Club was Mrs. O. N. Olson, who was to give a talk on "How to Use a Light-meter to Get Good Results." Arnold Elvrum was scheduled to show his color-film, "Tropic Fairyland," made recently in Florida and Cuba.

WALTER GAYMAN, Secretary.

Minneapolis Octo-Cine Guild

Minneapolis' exclusive 8mm. aggregation, the Minneapolis Octo-Cine Guild, began 1941 with a meeting on January 28th at which Eastman's film, "Highlights and Shadows," produced and photographed by Dr. J. S. Watson, Jr., A.S.C., was shown. The Octo-Cine Guild appears also to be indulging in a friendly argument with the Minneapolis Cine Club as to which held the country's first 8mm. show in a theatre-size auditorium (See Jan. issue, Ed.) The Octo-cines point with pride to their show held at the Minneapolis YWCA Auditorium in March, 1940.

Bardwell-McAlister Expands

To meet the demands of increased business, not only in the motion picture industry but with special items recently developed for the War Department, Bardwell & McAlister, Inc., have recently leased the large building adjoining their quarters at 7636 Santa Monica Blvd., Hollywood. The new space will be used for assembly of equipment as well as the firm's sheet-metal department and store-room.



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Photophone Develops New Panoramic Sound

MUCH of the thrilling realism of RCA Fantasound, developed especially for Walt Disney's "Fantasia" may soon be available to neighborhood dime-admission houses as well as metropolitan film palaces through the medium of RCA Panoramic Sound, according to Edward C. Cahill, Photophone Division Manager.

Actually a simplified version of RCA Fantasound, RCA Panoramic Sound utilizes auxiliary amplifiers, and loudspeakers to the right and left of the screen, or at other locations in the theatre, and simplified automatic control units installed in standard film sound-heads. The auxiliary equipment is controlled by a special "cue" sound-track on one side of the film. It was developed in the RCA Research Laboratories.

Speech is reproduced in the conventional way from a standard sound-track over the regular system. For music, sound-effects and other selected sequences the auxiliary loudspeakers are called upon to reproduce the same program-material supplied to the regular channel. Thus, an orchestra portrayed on the screen sounds as though it were actually on the stage, since the sound comes from as wide a source on the stage as the orchestra itself would occupy.

RCA Panoramic Sound principles have been applied experimentally by Warner Bros. in "Santa Fe Trail," now being released. Establishment of film standards by the Academy of Motion Picture Arts and Sciences must precede its general release to the industry, Mr. Cahill explained.

"Panoramic Sound supplements modern standard sound systems at a small fraction of the cost of the elaborate Fantasound system," Mr. Cahill said. "It does not render obsolete nor unnecessary any component parts of the standard sound system. In fact, in the case of RCA Photophone soundheads, the single attachment required fits into mounting screwholes already provided. Panoramic Sound vitalizes screen entertainment by a practical and not too expensive method."

Heart of the system is the control track. (Because of its location along the sprocket holes, this track does not interfere with running the Panoramic film on standard sound-head systems, with the same reproduction as is provided by ordinary sound film.) The degree to which this track is blacked determines when the auxiliary channel feeding the additional amplifiers and loudspeakers comes into play, and how loudly it is made to reproduce. It also controls the amplification of the regular system, thus increasing the dynamic range of the sound reproduction from that part of the system as well.

The only alteration to the regular system, other than the simple sound-head

attachment, is the insertion of an auxiliary variable-gain amplifier in the link circuit between voltage and power amplifier.

Flying Laboratory

(Continued from Page 113)

veloping, stopping, fixing and rinsing.

It took a total of two minutes, 35 seconds to process the film, 30 seconds more to squeegee it, and from 5 to 10 seconds for printing. Now it takes 20 seconds to develop the print, 20 seconds for stop bath, 15 seconds for fixing, and 5 seconds for rinse.

Drying the print is eliminated because the paper used is wax-treated so that it sheds surplus moisture. The print is thus immediately ready to be placed in a light metal tube container with sponge rubber shock absorbers, and dropped over the side to the ground.

The time totals 4 minutes and 15 seconds. Wright Field officials have clocked the complete process in under five minutes, including the time required for transferring the negative and print through the various stages of the processing.

Quick photography, Air Corps style, has been a subject of research ever since days of the old McCook Field laboratories in Dayton in the early 1920's. The first quick photograph of unusual significance was made by Major George W. Goddard, head of the laboratory, and cameraman Ben Thomas, also of the laboratory. It was a picture for President Coolidge, made at Dayton, from an airplane. The plane followed the presidential train to nearby Xenia, where the finished print was dropped to the station and handed to the president.

In 1929 Air Corps photographers made night pictures over Washington, processed them in the air and dropped them to be telephotoed to eight cities in this country. Yet another display of quick photography was in 1930 when the city of Sacramento, California, was photographed from the air, a negative was developed within 12 minutes in the plane and was dropped to waiting newsmen. The photograph was reproduced in a newspaper which was on the streets within an hour! Then in April, 1940, at Wright Field, a demonstration of quick photography, using the direct positive method, was broadcast over the radio network as part of the celebration of Army Day.

While the idea is not new, the present-day speed of the process clearly indicates improved methods and equipment. And the end is not yet; the photographic laboratory has more tricks in its bag. A new type photographic paperholder is being experimentally produced, which will eliminate the need for the hood over the printer. The new holder will have the sensitized paper pasted in place, so that it can be laid on the contact surface, the top can be brought down, and then the slide pulled from

the holder to make the exposure. As soon as the exposure is completed, and the paper is processed in the four tanks, holder and all can be dropped to the ground, with a streamer attached, thus making unnecessary the use of the tube container. The new holder will be of plastic, or some similar material that may be discarded without great loss, after a single use.

The laboratory men are continuing to work, too, on papers, films and chemicals to obtain still higher speeds. Eventually it is possible that the direct positive method will again be used, assuming that the limited emulsions, now the best obtainable, can be superseded by new emulsions which will give a wider range of daylight hours and a wider range of exposure. Decidedly, when the Army's flying photographers go out to make a shot, they not only bring it back—but bring it back in a hurry!

Showcase

(Continued from Page 125)

10 watts, and operates only on alternating current, 50 to 60 cycle, 100 to 125 volts. Projector and speaker are built into one compact case divided into two sections, one of which houses the 10-inch permanent-magnet speaker, the other serving as a platform for the projector. Space for the 1600-foot reel and the usual accessory equipment is provided in the case.

Other features of this projector include an oil-floated flywheel to assure uniform movement of the film past the sound gate, even, it is stated, when there are minor fluctuations of line current; fidelity control for accurate focusing of the sound-scanning beam when either original or reversal-duplicate films are used; a high-low switch for various line voltages, and similar modern refinements.

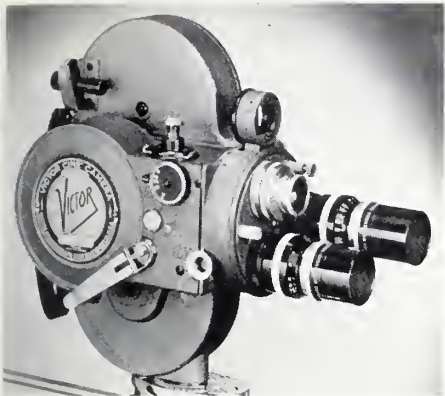
The other models include these basic features, plus various other mechanical and operating refinements. Model F, for example, operates on either A.C. or D.C. over the same range of frequency and voltage as the Model FS-10 but includes a built-in motor-generator to create the right type of current for each of the various electrical units. It also has an electro-dynamic speaker, and a jack for microphone or phonograph pickup. Furnished in two cases, the speaker-case has brackets to hold a projection-screen.

Model FB is similar in construction to the Model F, but is mounted in a soundproofed blimp. Top of case conceals 4-inch supporting legs and lifts projector to proper level for clearance of 1600-foot reels.

Model FB-25 is similar to Model FB, but is available with either a single 12-inch permanent-magnet speaker or with two of these units, allowing the full rated amplifier-capacity of 25 watts to be used. It also has a jack for microphone or phonograph pick-up.

Model FB-40 is almost identical in appearance with FB-25, but has rated capacity of 40 watts, operates only on

A.C., and is supplied with double 12-inch permanent-magnet speakers. Separate jacks are provided for microphone and phonograph pick-up, each with its own control so that sound from either one can be mixed with sound from the film, or all three mixed simultaneously.



New Victor Camera

A series of modifications of the well known Victor 16mm. camera have been worked out which are of sufficient importance to warrant considering it as a new camera. Designed to meet the needs of critical accuracy at all speeds for scientific purposes, this new development brings 16mm. camera performance to a new high.

The new unit, called the "Aircraft" model is stated to turn in results of remarkable accuracy at all speeds over a range of temperature down to zero and even lower. Victor engineers report that the speed tests were made in a cold-storage warehouse at -10° and the camera was left overnight to simulate the toughest conditions likely to be encountered in practice. The speeds were tested with a neon-type stroboscope and the settings of the instrument were not touched during the run at any speed. Even at the end of the winding the speed was, it is reported, still so close as to cause only a very slow "creep" under the stroboscope. This is held by the Victor engineers to be so accurate that time intervals for most scientific purposes can be obtained merely by counting frames, without the necessity for supplementary timing devices. The value of this for all research work is apparent. The new camera should also be found very useful for sport pictures such as analyzing one's golf stroke, etc.

In the previous model Victor cameras the starting button was turned to set the speed of the camera, and when depressed to start the mechanism it also placed a tension on the film gate. In the new model the speed is set by a separate dial clearly visible in the illustration, while the other functions of the starting button were retained.

To accomplish the new standards of accuracy and control, new bearings of an advanced type were used throughout, and a new governor was evolved together with such features as a lock on the starting button to hold it down at any operating speed, or to lock the button in

the safety position when the camera is not in use. The new unit was worked out as a result of the efforts of R. Fawn Mitchell, well known motion picture engineer who recently joined the Victor staff. Deliveries are now being made and the response of those who have tried the new camera is reported to be enthusiastic.

Idea Exchange

(Continued from Page 124)

equipment, but I think some of your readers may be interested in it anyhow.

A universal remote-control device for movie and still cameras is often very useful. It will permit you to get into the picture yourself, or to put the camera, say, at some distant point on your car for making running-shots, or to photograph single-frame animations, and the like.

With the cooperation of my brother, whose hobby is fine machine-work, I have developed the remote-controller shown in the picture. The drum-shaped housing contains a spring-operated escapement which through cams operates the projecting rod which in turn releases the camera's shutter, either directly, in the case of a movie-camera, or through a cable-release in the case of a still-camera. Since the "up" and "down" movements of this rod are set off by separate trips of the remote-control button, the device can be used to control any type of camera, regardless of whether its shutter-release is worked by pressing it up or down or, as in the case of the Filmo 8's, you get a steady run by pressing down, and single-frame stop-motion by pressing up.

The cylindrical housing contains a solenoid which works a trip that allows the spring-mechanism of the remote-controller to move the shutter-operating

lever through one stroke. A small rod projects from this housing so that the trip can, if desired, be worked by hand. Since the shutter is released by the spring-and-cam mechanism, even working the device by hand doesn't jiggle the camera; the action is always smooth and uniform.

Normally, the solenoid trip is worked by a push-button electric contact at the end of a long wire which closes a circuit to the solenoid from a small portable-radio "B" battery.

For some kinds of interior filming I have found it convenient to have the remote-controller arranged so it will automatically turn my Photoflood lights on and off at the same time it starts and stops the camera. This has been done by adapting an ordinary automobile headlight-dimming foot-switch which for convenience is mounted on a block of wood. Contacts are provided by which the 22-Volt circuit from battery to remote-control solenoid can be wired through the switch, at the same time the regular 110-Volt line from the house circuit is also wired through it to the Photofloods. In use, this switch first closes the 110-Volt circuit, turning on the Photofloods, and then makes another contact with the same stroke, operating the remote-controller. The next pressure on the switch turns off the lamps and stops the camera. My brother and I had lots of fun making and refining this gadget, and I have since had even more pleasure using it as shown in the illustration.

DUDLEY E. PORTER.

Glacier Park

(Continued from Page 117)

that if you get the right exposure for your foreground, the sky will go fairly dark anyway. So it takes only moderate

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filtering to produce overcorrected effects which would at lower altitudes call for much heavier filtering. By all means be conservative in your filtering, or you'll find your scenes consistently overcorrected.

"There's one thing, though, in which filtering can be a definite help in black-and-white filming in Glacier Park. That is in shooting the Indians. As I have already mentioned, they have pretty dark coloring. If you use a filter like a G, or even a fairly heavy yellow filter, you can lighten up the rendition of those dark skins amazingly.

"And speaking of the Indians, they are very cooperative to camera-using visitors. Several tribes live right in the park, and put on regular ceremonials at frequent intervals. The most important

of these is the annual Sun Dance, for which the entire Blackfoot nation assembles during July. Sometimes there are several thousand Indians gathered together for this important ceremony, which they enact exactly as their forefathers have done it for generations uncounted. The Sun is one of the principal Blackfoot deities, and invoking his blessing, they raise a sacred Sun lodge, and then with dances and barbaric songs, invoke his aid through the coming season.

"But lesser dances and ceremonials are held almost daily, in places near the many hotels and camping-places. Most of these dances, too, are staged in spots where a wise camerist can select angles that will conceal all traces of modernity and tourists, and obtain striking pic-

tures of life as it was before the white man came.

"The Indians are very cooperative to camerists, too. Unlike some of their fellows in other parts of the country, the Glacier Park Blackfeet have no objection to posing for stills and movies, and a few cartons of cigarettes strategically distributed among the braves will assure their complete cooperation in re-enacting any action you may want for close-ups, etc. As a matter of fact, if they like you (and the cigarettes hold out) they can be persuaded to adopt you ceremoniously into the tribe, painting the medicine-signs of earth, sky and water on your face, and giving you a sonorous Indian name. This ceremony, by the way, makes a most interesting picture—especially if one of the adoptees is (as is often the case) a pretty girl!

"Photographically, you'll find it is best to plan things so you can film any scenes of the Indians in either the early morning or late afternoon. At these hours, the sun's light strikes more obliquely, and you can avoid the inky-black face-shadows you'd get at others times under the imposing feathered war-bonnets of the chiefs and braves.

"For that matter, morning and evening are the best times for filming most of Glacier Park's scenes, due to atmospheric conditions, and at noon it's a very good idea to lay the camera aside and indulge in a good meal at one the inns. Not only is the noon sunlight—as it is everywhere—from such a high angle that it gives an unpleasant top-light, but the thinner air of the high altitude tends to make noon shadows go an impenetrable, inky black.

"Oddly enough, Glacier Park's scenery seems to have been laid out with photographic requirements in mind. The park, as you know, straddles the backbone of the Rockies. And practically all of the scenes on the east side are shots for which the lighting is naturally most favorable in the mornings, while on the west side you get the best lighting in the afternoons.

"Most 16mm. and 8mm. filmers—especially when they are shooting in Kodachrome—like to include at least one spectacular sunset in each vacation reel. I don't know another spot in America which offers sunsets so spectacular! If you have a tripod, I'd recommend setting the camera up on it some evening and trying a stop-motion shot of a sunset. If your camera has a single-frame release, use it to shoot the sunset, exposing a frame every minute or so. If it hasn't this fitment, you can often get pretty much the same effect by giving the release only a very quick, light touch so that at each touch only a frame or so is exposed. In either case, the result on the screen will be shot in which the sun moves quickly to the horizon and then drops out of sight, while the sunset colorings shift and change magically on the clouds until the afterglow dies out. It makes a perfect ending for your Glacier Park film." END.

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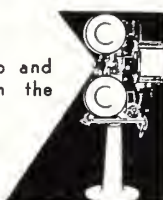
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Scenario Films

(Continued from Page 119)

screen tests. From the many applicants we picked our cast.

A bit of prowling round the waterfront brought to light an old barge which served as the location for most of our scenes. We also needed a yacht for the background of some sequences, so we went to the nationally famed yacht-builder, Joe Fellows, in Wilmington, and received his full cooperation—yacht and all.

This story, by the way, was to be a full length feature—the third so far in the Club's history. "Danny's Mistake," "Camera Clickers" and "Tramp's Triumph" were all shorts, running from 100 to 150 feet 8mm., or 200 to 300 feet, 16mm. But "Suzanna" was to be a real feature of 400 feet of 8mm. or 800 feet of 16mm.

Our scenario was built around a retired seafaring gentleman, one "Captain Crockett," and his daughter "Suzanna," who make their home on the old barge. We opened our filming with "Suzanna" coming aboard the barge, excitedly informing her father that she had seen the villain, "Tony," on the dock. We introduced this character as the nasty person who had burned their boat up north, and thus placed the estimable Captain and his pretty daughter on the beach.

Nevertheless, the "Captain" assures "Suzanna" she must be dreaming, as "Tony" is safely put away in prison. They sit down for their morning meal, and then see in the morning paper an item stating that "Tony" has escaped from jail. The crotchety Captain gets thoroughly flustered at seeing this, and his Chinese cook even more so, excitedly pouring hot coffee all over his employer to give a comedy finish to the sequence.

This, I might add, was a real hardship on our actors, for everything had to be done two or three times. We had fourteen cameramen filming this story, so we had to take shifts in shooting—seven to each filming—which meant that our actors had to give their all at least thrice: one rehearsal and two takes. As might be expected, at each take some of the fellows on the non-shooting shift would often feel that the players gave a better performance than than at the take when their own cameras were going. So a certain amount of good-natured grouching and controversy were quite the usual thing. But with so many cameramen, this couldn't be avoided—and anyway it helped make each man's version distinctively different!

To bring a bit of love-interest into our picture, we had a hero, "Jerry Mariner," trying to build up friendly relations with our heroine from his nearby yacht. Of course, we kept boy-meeting girl—to say nothing of wooing her—until we had plenty of footage to convince the audience that "boy wants girl!" Also of course, opposition was placed in the path of true love by having the old Captain regard "Jerry" as a rich mollycoddle, not good enough for his daughter.

Once this was established, we got our drama under way swiftly. Following an excellent love-scene, "Suzanna," going back to the barge, is waylaid by the menacing "Tony," while at the same time the old Captain is busily telling "Jerry" off for daring to associate with "Suzanna." "Jerry" looks up, and seeing the villain trying to grab "Suzanna," he dashes off to protect the fair maiden. A well-paced fight sequence follows (no retakes on this!) and of course for picture purposes, "Jerry" must come out victorious.

When our menace comes to after his knockout, "Suzanna" is very affectionately telling her hero just how wonderful she thinks he is. "Tony" reaches for a gun and in best villain fashion takes a pot-shot at the Captain. The Chinese cook very nicely removes the gun and tosses "Tony" into the bay, while the other characters do all that is necessary for the traditional happy ending and osculatory fade-out.

This story has received excellent response wherever it has been shown—more favorable, we like to feel, than the average run of home movies. We admit we're rather proud of it; its continuity is smoother, the actors played their parts well, and it has an interesting finish and atmosphere.

Thus encouraged, by the spring of 1940 the group voted that they would rather make one good feature than two quickie shorts. Then the old problem—what to film! Prizes were offered for the best story submitted, and believe me, we had plenty. The chosen synopsis was finally turned over to the script committee and whipped into shape for actual filming. The official title was "Happy Landings," but several of us have preferred other names, and are using them. My own version, for example, is called "Double Trouble," while other members are "releasing" their versions of the same story as "Two Girls," "Merry Mix-up," and various other titles.

Getting organized to film this one, all the camera-shooting members were numbered off; there were seventeen of us. All those with even numbers shot on the first shift, while those with odd numbers were on the second. The older members help the younger members, advising them how to set up their cameras, picking camera-angles, helping them with meter-readings, exposures, and the like. Normally we shoot the end of the story first, as we are all anxious to see how to end it, and it somehow gives us a better perspective of how to build up the beginning!

We had several important sequences on the city's Rainbow Pier and along the seaside amusement district known as The Pike, so we applied to the City Dads for assistance, and received full cooperation, even to police escorts for our city filming.

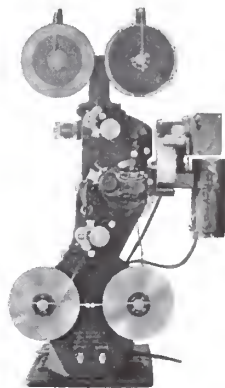
We chose our cast by screen tests of high-school students and members of the local Players' Guild. All of our actors were, of course, amateurs. From our own group, those who weren't working on

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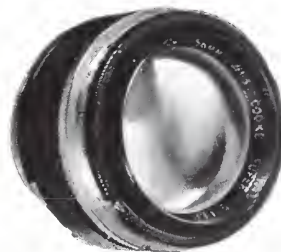
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cameras took charge of other technical details. Mrs. Fosholdt, for instance, was in charge of script; Clarence Aldrich and Ray Fosholdt co-directed; Midge Caldwell was in charge of locations; Dorothy and Mrs. Rafferty were script-girls; and as usual, yours truly was prop-man.

Our story begins at a service-station, where our hero, "Jack," drives in with a snazzy new car to be serviced by his friend "Bruce." Because his partner is late, "Bruce" asks "Jack" to deliver a car for him.

The car's owner turns out to be a movie-actress. She is shown worriedly reading a telegram. "Jack" hands her the keys and starts off when she calls him and asks if he would do her a favor. Of course he says yes, and she informs him that her brother is two-timing his fiancée—and she has just learned that the fiancée is arriving on the

afternoon plane. So will "Jack" please entertain the girl—? One look at a snapshot of her brings an enthusiastic response from "Jack," so the actress, thinking him a mechanic, hands him a generous roll of bills with which to take care of her missing brother's entertaining, and he leaves.

Back at the service-station, he shows the picture to his friend—and finds he has company on the job. They arrive at the airport together. "Jack" spies the girl he is to meet, and as he introduces himself as her fiancée's friend, they stop beside a suitcase momentarily left by another feminine passenger. As they walk off, "Bruce," thinking the suitcase belongs to "Ann," picks it up and hurries off to give it to them, but they drive off before he can reach them. This of course opens the way for sequences showing the luckless "Bruce" thumbing rides, trying to catch up with them and deliver the suitcase.

Reaching town, "Jack" and "Ann" go to a de luxe hotel for cocktails. We had the full cooperation of one of the city's leading hotels for this sequence, and as a result secured settings and angles that could hardly be bettered in a Hollywood super-production.

Next, the young couple go down to the Pike, the beach-side amusement zone. Here again we had full cooperation from the various concessionaires, and we built up some fine footage showing the two enjoying the various "rides" and other amusements. It is up to each individual cameraman to use as much or as little of this action as he chooses, so you can imagine that in the various versions of this story, the two characters show quite a variety of tastes in sampling the Pike's pleasures!

Next we went to the Rainbow Pier, and with the aid of the Police Department we were able to cut the pier off from traffic from early in the morning until 1:00 p.m. while we filmed our story. The tramway that makes regular runs around the pier carrying passengers gave us the use of two trams—one to carry our actors, the other, travelling beside it, loaded down with cameramen and their equipment while we made running-shots of the happy couple.

After this, of course, we had to display our stars in bathing-suits, so we took them to the beach for a swim. Then back to the hotel to get their car. Just as they drive off, "Bruce," considerably the worse for wear, rattles up—again just too late—in an old Model T flivver in which he has thumbed another ride. Missing them once again, he appropriates a telegraph-messenger's scooter-bike and sputters off, hot on the trail, just as the Western Union boy comes out of the hotel and, seeing his bike vanishing around the corner, joins enthusiastically in the chase.

From here our two young leads go to the park where the actress friend is on location for a movie. To make this more or less convincing, we had the non-shooting half of our troupe turn actors, portraying the studio cameramen, direc-

tor, and crew while the other half shot them. I'll wager no professional troupe ever used as many cameras on a single closeup as our fictional company did—!

Of course, just at this point the missing brother, accompanied by his local girl-friend, turns up, and in the ensuing confusion "Jack" has an opportunity to plant a hefty wallop on the deceiver's chin. After this, the movie-star sister tries to explain things to her friend, telling her "I hired this mechanic to entertain you." "Ann" is naturally disgusted by the deception, but "Jack" smilingly reaches into his pocket, returns the money and keys to the glamour-girl, and tells her, "You didn't hire me—I'm not a mechanic, I'm an architect," and proceeds to proclaim his love for "Ann."

As the happy couple walk off through the park, "Bruce" at last catches up with them and offers "Ann" the suitcase which by this time is a little worn, with more clothes out of it than in. For the pay-off line, she says sweetly, "Why, that isn't mine," at which the long-suffering "Bruce" collapses and brings an end to the film.

All the official cooperation the Long Beach Cinema Club has enjoyed in making these productions may seem something very extraordinary for an amateur group, but I'm convinced that almost any really active group could obtain similar help in almost any city or town. Of course, the group must be composed of genuinely active filmmakers who are "regular fellows," and must have really active people at its head. That, we've been fortunate in having since the start, when Otis Hoyt organized the group in 1937 and became its first president. Clarence Aldrich was president for the two very active years of 1938 and 1939. Harold Hilliger proved a capable manager during his term as president in 1940, and for 1941, under our first lady president, Midge Caldwell, we seem off to another successful year.

We keep up interest in membership by having a limit of only 50 members, both 8mm. and 16mm. At present, there are slightly more eight millimeterists than sixteen-shooters in our ranks. The club has purchased its own screen and its own projectors, both 8mm. and 16mm. Bell & Howells.

The dues are now \$5 per year, and are used to purchase equipment, mail announcements and to furnish prizes for the best pictures every three months. Some prizes are also donated by local dealers. The Club's Directors view the various individual versions of the Club productions before showing them at meetings, and pick those they think are best. When the club showing is made, the audience votes to determine the winners. These winners are compared with the Executive Committee viewpoint, so that the members have a double check on the fairness of judging.

Making Club scenario productions this way means plenty of work—I can personally vouch for that, since I was elected projectionist, prop-man and, so to speak, general flunkie back in 1937, and

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have for some reason been re-elected each successive year—but it's also grand fun. And as we watch the screening of the films we've made together, and think of the friendships developed while working together to make them, I'm sure all of us are convinced that, given the right sort of a group, no other form of movie-making can compare with scenario productions—unlimited!

Sound Projection

(Continued from Page 123)

projector will be discussed in this chapter. Most sound projectors are produced by silent projector manufacturers, and the picture-mechanism and maintenance in both cases are similar, but perforations on sound film are on one side of the film only. On the other side of the film is the sound-track, therefore the claws and sprockets which move the film must act only on one side of the film.

16mm. sound projectors are usually the choice of business organizations, schools, and people who can afford the best projector. The quality of 16mm. sound projectors has been greatly improved and their cost is now only about 25% greater than good silent projectors. They are equipped with 1600 ft. reels and their operation is not much more difficult than silent machines, but because sound films are projected at a greater speed than silent pictures, they need more care in threading.

Before the machine is started, each sprocket should be examined to make sure that the film is correctly seated on the sprocket-teeth. Film-loops should be of the size recommended by the projector manufacturers. It is advisable to make doubly sure in threading the machine by turning the mechanism by hand before the power is switched on. This, by the way, is also a very good safeguard in silent projection as well.

The sound projector consists of two main parts, the sound-head and the projection-head, which, except for the above-mentioned fact regarding the sprockets and claws, is similar in design to silent projectors. The standard position for the sound gate is 25 picture-frames ahead of the projection gate. Instead of the film passing the sound-gate or scan-

ning-beam by means of an intermittent movement, it is essential that the film passes this spot in a perfect even flow. Any vibration or irregularity in the movement of the film as it passes the scanning beam will be heard from the speaker as a rise and fall of pitch known as "wowing."

Most sound projectors have means whereby a microphone and a gramophone pick-up can be plugged into the amplifier. This is an important accessory when public film-shows are contemplated, because good silent films with carefully-chosen musical backgrounds of a steady volume-level are equal to sound films containing dialogue.

Catalogues are issued by gramophone companies which classify mood music and sound-effect records suitable for any film. These are helpful for people who do not have a wide knowledge of gramophone records.

The double-turntable system of supplying music and sound effects for silent films is very simple and popular. Assembled outfits or parts for making the various units can be purchased with or without an amplifier, and it is advisable to use turntables so designed that the two pickups are wired in a manner which permits both records to be played together, and that a change from one record to another be possible without any break in the sound continuity. It will be appropriate at times to play soft music on one turntable, and sound-effects on the other. Any voice, sound-effect or music, can be recorded on discs made of a special material which can be played back immediately after a recording has been made. These special discs are not expensive and can be made by a portable recorder, or by sound studios specializing in this work. They must be played using a very light pick-up and a special "transcription needle."

When sound pictures are shown in public halls, schools, or large rooms, it is not always possible to prevent echo on short notice, but improvement may be effected in the acoustics of any room by lining it with celotex, furnishing it with carpet, or by draping the wall behind the projector with a heavy fabric. It will be noticed that the echo in a room containing smooth hard plastered or cemented walls is greater before the audience arrives, because human bodies and clothes act as sound absorbers. The

average living room with its furniture, floor-covering and curtains, has the effect of eliminating a portion of the echo.

Some sound projectors are sold in enclosed carrying cases which are more or less soundproof. These can be closed when the projector is running. Then if the noise is still troublesome it can be

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It is difficult to determine the correct volume-level for sound when one is standing by a running projector. Therefore it is a wise plan to make a test before the show commences, by standing in a position which will be taken by a person sitting in the centre of the audience.

A bad splice might cause the fast-moving sound-film to become unseated. Therefore it is advisable to occasionally hold the index finger and thumb on the edge of the film at a spot near the take-up reel; by doing this, any torn perforations can be felt and the projector immediately stopped.

Placement of Speaker

The correct placement of a loud-speaker is not on the floor as is usually thought, but above the heads of the audience with the axis of the speaker cone falling about the centre of the audience. The amplifier of a projector uses tubes similar to those in radio sets, which in time, lose their efficiency, so they should occasionally be tested. It is advisable always to carry a spare set of tubes and an exciter-lamp. Projectionists should study their instruction-book and not meddle with the amplifier. If trouble develops, the manufacturer or dealer should be consulted. It is advisable to keep a record of the hours the projector is used, and dates when oiled.

Particular attention should be paid to cleanliness. If the projector splashes oil, care should be taken that none of this comes in contact with the film. The exciter-lamp should be free from fingerprints, dust, or dirt, and sound films should be cleaned more frequently than silent films because dust affects the sound optical system. END.

West Indies

(Continued from Page 127)

belong in the West Indies chain of islands, it is in the area and just off the coast of Venezuela and many cruise boats include it in their itinerary. This is another island which would furnish enough material to make a complete travel reel. Curaçao is an island blessed with one of the finest protected harbors in the world for ships of all draughts. It is Dutch and a free port so there is great activity in trading. All tourists who go there take advantage of the duty-free provision which makes foreign articles unusually cheap. The principle of free trade is the basis of all Dutch settlements throughout the world and it is this feature that has made them prosperous and busy. Make this free trade angle your theme and you will have a new way to tie up ships coming, unloading cargo and departing and tourists looking and shopping.

Willemstad is the capital city and really looks like a bit of Holland transplanted to this hemisphere. It is built on either side of a narrow deep inlet

which leads to the inner harbor. This waterway has almost as much traffic on it (in tonnage) as any four-lane highway in our industrial east. There is a pontoon bridge which swings open to let the boats pass and swings back into position to let crowds of people and automobiles get on their way again. The bridge is a feature which you can cover from many angles.

If you can get permission to go up into the signal tower you can work up a good sequence of ships coming and going and how the traffic is controlled to prevent collision. The opportunity to make loading and unloading scenes is endless down around the docks. A forceful way to illustrate just how important commerce is to Curaçao would be to build up a series of shots with men and women in various walks of life in the foreground and ships passing like city street traffic in the background. You can find a barber shaving a customer and a ship through the window, or a business executive answering the telephone while a liner seems to pass right under the window. This idea could be carried out in as many situations as you feel necessary.

The Government buildings are most imposing and entirely different from anything you have seen elsewhere in the West Indies. Dutch Marines mount guard in front of the Palace and they too are different and good for a number of shots. There is a market that is unusual along the quay where small sail boats from Venezuela tie up and sell their goods to passersby.

The traffic court has a novel procedure. Small toy automobiles and trucks

are used by the defendant and the prosecuting attorney to illustrate their sides of the story. The whole drama is excitedly reenacted on a desk right in front of the presiding judge who looks on sternly official.

The making of Panama hats is a long established industry in Curaçao and as they are generally made outside in the sun you will find it easy to cover.

Jamaica stands alone out in the Caribbean south of Cuba. It is easy to find features there. Waterfalls and beaches on the north coast are typically tropical with waving palms and verdant growth. You can make the same kind of coconut-harvest sequence here as you can on Trinidad. One very unusual and distinctive feature can be found in the central plateau part of the island where a large herd of East Indian cattle are raised.

The foregoing can serve as a guide to those who might want to sail the West Indies this winter on a picture-taking cruise. By no means do these constitute all of the available features, but I believe that they are the outstanding ones which you will want to photograph and this list might help you to plan so as to conserve your efforts and film.

Since you will spend many hours on shipboard, you will doubtless make all kinds of shots of the activities of your fellow passengers and the ship's crew. Such scenes as heaving anchor, dropping anchor, the whistle blowing, signal flags going up, officers taking sextant readings, the wake of the boat, sunlight on the water, sunrises and sunsets will fill in giving a smooth continuity from island to island. END.

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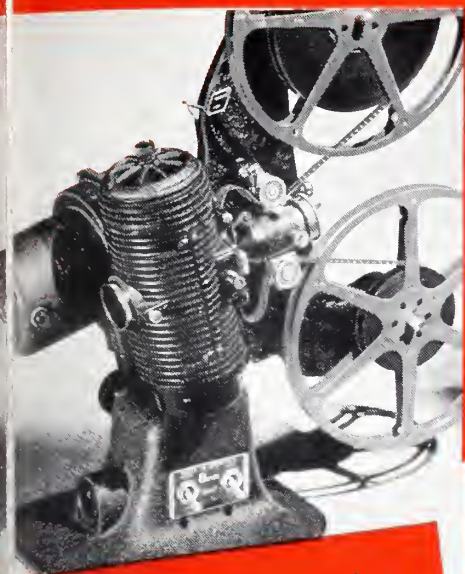
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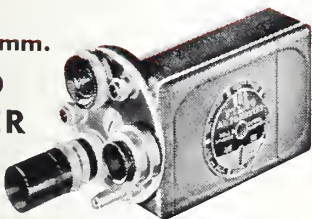
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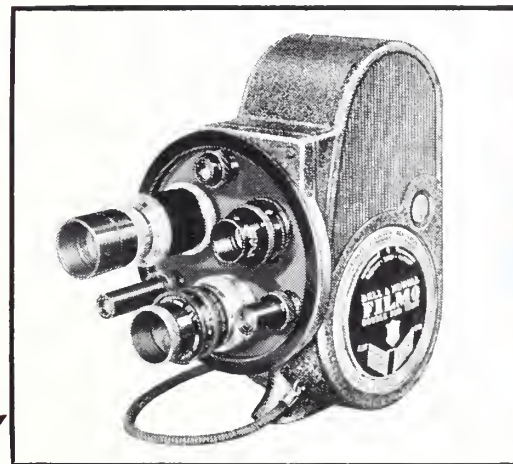
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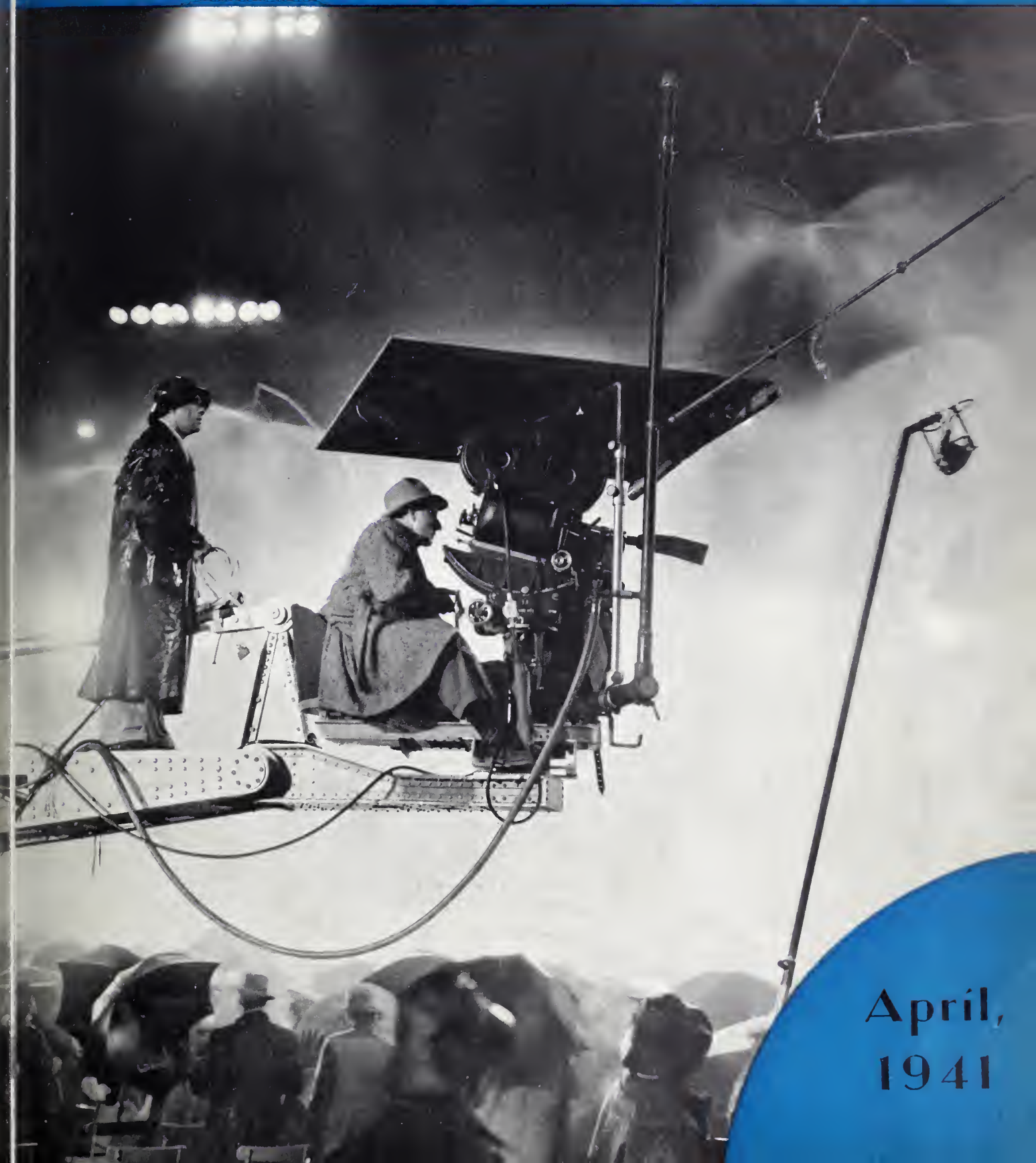
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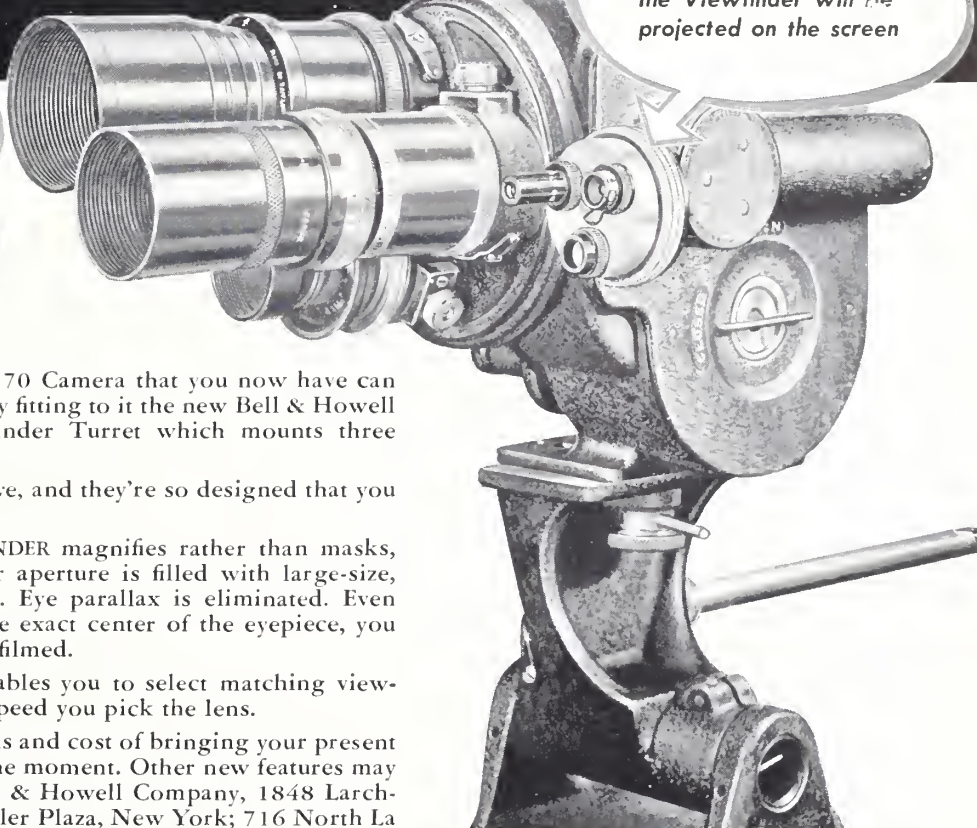
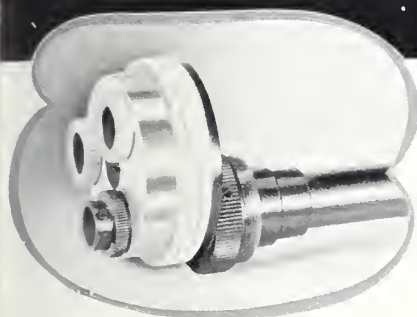
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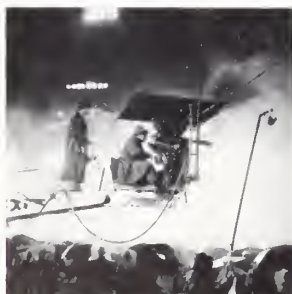
April, 1941

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The Front Cover

The front cover this month shows the making of the rain sequence from the Frank Capra-Warner Bros. production, "Meet John Doe." We can't find Director of Photography George Barnes, A.S.C., but Director Capra (standing) and Operative Cinematographer Irving Rosenberg can be seen riding the boom. Note sprinklers used to provide the "rain." Still by Mack Elliott.



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A Reflection-type Meter For MAKING INCIDENT-LIGHT READINGS

By KARL FREUND, A.S.C.

SPEAKING broadly, the modern photoelectric exposure-meter is undoubtedly one of the most valuable photographic accessories developed during recent years. But insofar as the studio cinematographer is concerned, it seems equally clear that these meters have not yet attained their greatest usefulness for the simple reason that no meter has yet been designed to meet the specific requirements of studio cinematography.

It is well recognized among members of the camera profession—even if not by the meter designers—that the studio Director of Photography does not require an *exposure-meter* in the ordinary

sense of the term. Neither does he require, as so many of these designers alternatively think, a conventional foot-candle meter to measure the *total* brightness of the illumination falling on a given subject. What he *does* require is a precision light-measuring instrument of great selectivity, by means of which he can measure the intensity of the light reaching his subject from a single light-source—the key light—to which he can thereafter balance the rest of his lighting visually.

Obviously, for this purpose the conventional meter and meter-using technique of taking a reflected-light reading, either an overall reading of the scene

as a whole, or a slightly more selective reading of the subject's face alone, is valueless.

Therefore the majority of us have developed individualized, but basically similar methods of using conventional meters for incident-light readings. In some studios, General Electric meters are used, with or without special hoods and reducing apertures to reduce the light received to a conveniently usable amount. In many other instances, individual cinematographers have made their own reducing apertures, which vary so greatly that in some cases the readings used by individual cinematographers in the same studio bear no fixed relation to

each other. In other instances, cinematographers have utilized Weston meters—especially the new Weston “Master” model—similarly, both with and without modifying aperture-plates. The Technicolor Corporation, as is well known, have their own type of meters, specially adapted from Weston foot-candle meters, but used in essentially similar ways.

I think it will be generally agreed that while these meters all present considerable advantages, they all suffer from one uniform difficulty: *none of them are sufficiently selective*. A very slight difference in the positioning or angling of the meter will make it give greatly different readings. It may scan more or less of the beam of the key-light, or even be further thrown off by including some of the “filler” or cross-lighting illumination. It is entirely possible for two individuals to take readings on the same scene with two meters which on the test-bench check with each other perfectly, and—simply due to slight differences in the way they position their instruments—obtain noticeably different light-value readings.

With this in mind, I have recently developed a meter which in the opinion of engineering experts from Technicolor, Eastman, and other organizations, as well as in my own opinion, appears to mark a worthwhile stride toward the elimination of these errors.

The foundation of the meter is a standard Weston “Master” exposure-meter. The only permanent modification made in the meter itself is fitting its case with two small metal rails upon which my fitting is mounted.

Sliding into place along these rails is a dovetailed metal lens-mount holding an old 2-inch camera-lens. With the meter’s hinged light-baffle hinged out of the way to permit low-brightness readings, this objective is slid into place over the meter’s photoelectric cell.

Extending forward some eight or nine inches from this fitting is a small metal bar. At the outer end of the bar is mounted a white target-field about three inches square, upon which the lens is focused. This target carries a sheet of matte-white cardboard identical with that used in the well-known Eastman color-temperature meter. It is mounted so that it may be inclined to one side or the other of the meter-lens axis, to avoid reading in the meter’s shadow. In practice, about a 45-degree inclination is used.

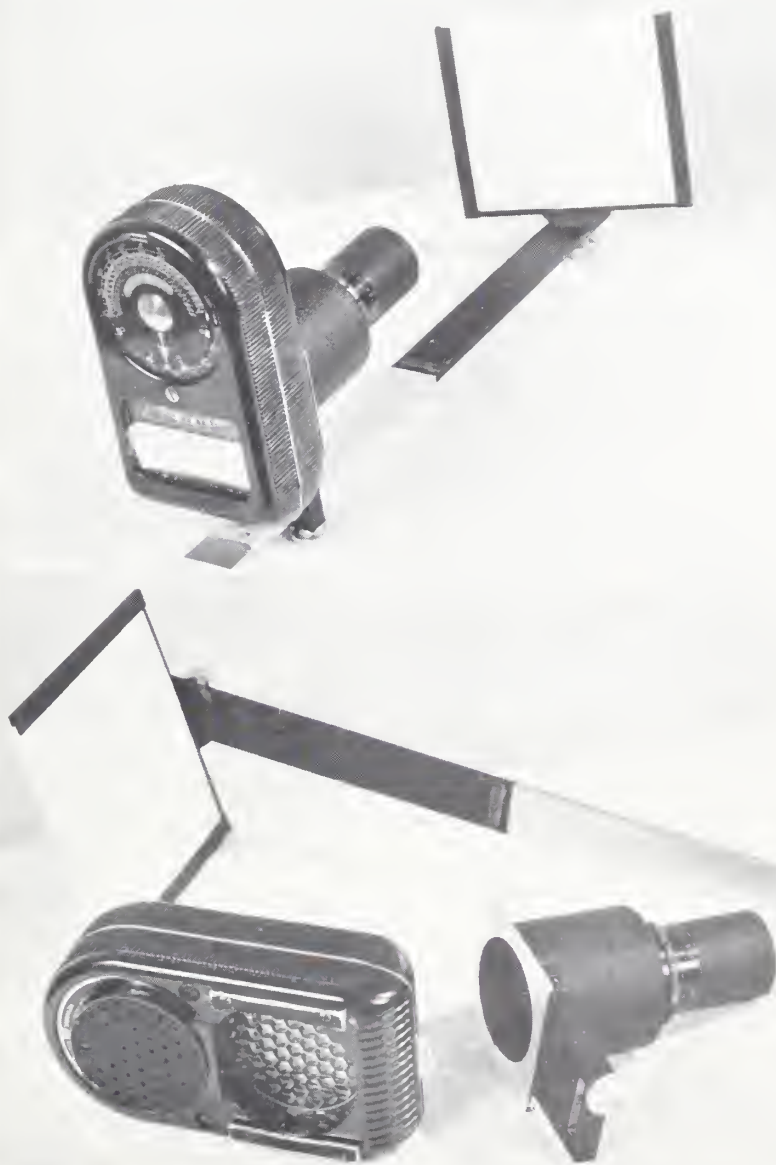
In use, the meter is taken to subject-position and placed so that the white target-card is illuminated by the key-light, and the reading is taken. It is quite easy to determine visually when the card is in the key-light’s beam. Due to the fact that the lens’ field is confined solely to the area of the target-card, and that the lens is also quite deeply hooded, the meter can ordinarily read *only* on the key-light. Experience has shown, too, that unlike conventional meters, minor changes in the angle of the device do not produce disproportionate changes in the meter’s reading.

For my own use, I have further simplified things by placing a strip of white tape over the meter’s dial, concealing the usual calibrations, and bearing two arbitrary ones directly related to my own work. One of them represents the 500 foot-candle key-light level preferred for Technicolor. The other represents the somewhat lower key-light level I find preferable for black-and-white. It would of course be entirely possible to dispense with these calibrations, and arbitrarily use whatever points on the meter’s original scales might be found suitable; in fact, for the free-lance cinematographer going from one studio or laboratory’s processing standards to those of another, this might be preferable. For my own use, however, I find that the two-point scale makes for quicker and more convenient use.

An essential feature of this adaptation is the fact that it does not make any permanent change in the meter itself. Most of us, when working on ex-

terior scenes, use our meters in the conventional way, as exposure-meters for overall reflected-light readings. With this device, all that is necessary is to slide the auxiliary lens and target off, and the basic Weston meter is ready for use, quite unchanged.

While this adaptation of a familiar, commercially-available meter probably does not represent the ultimate in light-measuring instruments for studio camerawork, and can—and probably will—be improved as other cinematographers and engineers experiment with its basic principle, I feel that it does at least mark a forward step in our search for a simple, selective and uniformly accurate meter for professional use in studio interior lighting. It is with the hope that out of it may grow further advances in the design and use of meters to simplify our lighting problems, rather than with any desire for personal credit, that I have taken this means of bringing it to the attention of the industry.



Two views of Freund's meter: Above, assembled; below, disassembled. On opposite page Freund is shown making a reading with the meter while filming Eleanor Powell. Photos by Virgil Appger.



A BIG part of the fascination of Hollywood is the way in the midst of its traditionally hard-boiled routine, real-life incidents occur in which the story-book happy ending is seen to come true. When these things happen, most of us generally put it down as a "lucky break" for the individual concerned, and forget that there's usually someone doing hard—and unpublicized—work behind the scenes to turn anticipated failure into amazing success.

All of which is by way of introducing an unassuming man who played a big part in one of those real-life Alger stories not so long ago. It seems that an internationally famous operatic star signed to make a picture for a relatively small studio which was then struggling on the wrong side of the mythical line of demarcation between minor-league and major-studio status. The industry was politely skeptical, for this star had made several pictures for another, much larger studio, and emerged with the general verdict that even though she could sing well enough for the Metropolitan Opera, she was unfortunately not a "picture personality." It was too bad the little studio was going to be saddled with a

costly flop, but of course it couldn't be anything else.

But it was. The picture was a smash hit. Grace Moore, the opera-singer, emerged radiantly as the top picture personality of the year. It brought back musical films with such a bang that for years no studio with any pretense of standing could afford not to have one or two operatic songbirds on its contract roster. And it boosted the Columbia Studio well across the line into definite major-studio classification. That picture that "couldn't be a success" was "One

Night of Love"—which probably played to more business than any other release of its season.

But it wasn't just a lucky break that turned failure into success, and transformed a non picture personality into a top-flight star. There was a quiet, unassuming man by the name of Joseph Walker, A.S.C., presiding over the cameras on "One Night of Love." And it was due in a great measure to his professional hobby that the visual miracle of the picture transpired.

For Joe Walker's hobby is collecting lenses. He gathers them from every possible source—fresh and new from the world's greatest lens-makers, old and battered from Los Angeles' pawnshops. And he knows lenses so well that each individual objective's characteristics and performance are at his fingertips. With him, it isn't a case of merely saying "A Cooke will do this, an Astro, that, and this other type, something else." He knows, from exhaustive study and tests, that this particular Cooke will perform this way, while that individual Cooke—apparently of the same design and manufacture—will act differently under such-and-such conditions. He has the industry's largest individually-owned collection of lenses and diffusing media.

So it was that when the apparently non-photogenic Miss Moore came to Columbia, Joe Walker analyzed her features, thought a minute, and reached into his lens-case for a combination of lens and diffusion which were just a little bit different from anything previously used in photographing the lady. Add to this the skill Walker and Director Victor Schertzinger have in making a player

Aces of the Camera

IV:

JOSEPH WALKER, A.S.C.

By WALTER BLANCHARD

feel at ease, and, well, Horatio Alger might have penned the sequel.

If you ask him about it, Walker puts it very logically. "Years ago," he'll say, "I decided that the real foundation of photography was the lens that made the picture. And as photography was my bread-and-butter, I decided I'd better know something about lenses. And I've been learning about them ever since."

In the process, he has made a number of important contributions to the optical side of cinematography. For example,

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ARE WE Afraid of Coated Lenses?

By CHARLES G. CLARKE, A.S.C.

SINCE the announcement some time ago that glass surfaces could be coated with a transparent material, applied in microscopic layers or laminations, for the purpose of reducing surface reflections, it was immediately seen that this process was one which could be used on photographic lenses with possible benefit.

Most of the major studios proceeded to have a set of lenses or two coated with the new material. It was soon discovered that the coating did more than simply control the unwanted reflections and flare, the most apparent difference being in the added definition, an increase of brilliance or contrast, and surprisingly enough, an ADDED transmission of light. The extra exposure amounts to about a full f-stop.

The first two effects are direct results of the anti-flare coating, for it is realized that the interior reflections from the several elements of the modern uncoated lens kick back and forth, greying over the shadows and blurring the sharpness of the focus. Just why an extra layer of not too clear coating applied to the several lens-surfaces should increase the light transmission is more than I understand except that the higher contrast values apparently increase the exposure.

The increase of contrast and definition were values not expected and in a measure may be part of the reason why coated lenses are not more generally used than they are. I know of several instances where cinematographers have had lenses coated, but after a few days' use have returned to their uncoated lenses, except for some very long shot or an unusually-lighted scene.

The manner of lighting and of developing the negative for uncoated lenses have so long been thoroughly familiar; but it is clear that a new technic must be developed for the coated ones. This is especially true in close-up work. Even with uncoated lenses diffusion-discs, gauze diffusers, and the like, are usually used with medium close-ups and always when large close-ups are made. It would seem that the same rule should apply when using coated lenses modified, by simply adding heavier diffusion to counteract the sharper definition of the coated lens.

However, when an uncoated diffusing medium is introduced into the optical

system of an otherwise coated lens, most of the benefits of the coating are lost. *The quality of the lens reverts back to that of an ordinary lens.* Unless the lighting-contrast is modified for use with this combination, the result on the screen in the finished production will jump from one value to another quite different when diffused and un-diffused scenes are cut together.

The brilliant, well-defined image possible with the coated lens, while having an extremely long range between high-light and deepest black, is not to be confused with that quality generally called "hard" or "chalky," for the coated lens gives a long range of middle tones and "holds" detail in extreme shadows and highlights as no uncoated lens will. Though a close-up may be lighted in the extreme key, the high-lighted area renders all of the skin texture; white collars reveal their weave, and yet every detail is visible in the darkest clothes and deepest shadow.

To my mind, this quality of brilliance and definition is far more apparent and valuable than the anti-flare characteristic. One must still avoid photographing into extremely strong sources of light, such as lanterns, flashlights and highly burnished metallic surfaces, though a much greater range in this respect is possible than with the uncoated lens.

Several productions are now showing where use of the coated lens is evident. "Tall, Dark and Handsome," "Tin Pan Alley," "Citizen Kane" and several others are among them. A sensational example of the anti-flare possibilities is in evidence in "Citizen Kane" in those scenes in the Opera House where the camera is directed into the footlights and floodlights that illuminate the character on the stage.

I have recently completed a picture which presented an interesting experiment for the use of coated lenses. The picture is "Dead Men Tell," the latest of the Charlie Chan series. As the title indicates, it is a murder-mystery, and calls for most of the production being photographed in extreme low key Effect Lightings. As the story permitted an unusual photographic approach, I determined to use the coated lenses for every quality they had in them.

Rather than endeavoring to bring the contrast and definition more nearly to the customary values of the average pro-

duction, I went perhaps to the opposite extreme by striving to take advantage of all the definition and brilliance that the coated lenses and the new Twentieth Century-Fox camera would allow. This camera, it must be mentioned, in itself permits unusually well-defined photography because of the shutter placement and silent operation. The camera is not blimped, and therefore there is no need to use a glass window before the lens.

In "Dead Men Tell," no diffusion was used on any scene, close-up or otherwise, except that in making a sequence of night-exterior on a dock set a light haze-filter was used for atmospheric effect.

Obviously, of course, in making some of the larger close-ups of the feminine players the strictly literal rendering of the coated lens with no diffusion might be unflattering and hence undesirable. But it seemed to me that we have at hand means by which this can be corrected even without recourse to the conventional photographic diffusion methods. Therefore I attempted in making these close-ups to control the visual effect through the light-source rather than through the lens, lighting these shots with more of a portrait-lighting style than with conventional cinematographic lighting technic.

The key-light was usually a heavily-silked broadside or rifle, rather than the spotlights generally used. As is well known, the smaller the actual source from which light comes, the sharper the definition of the resulting image will be, and conversely, when the source of light is from a physically large area, the definition of the photographic image is correspondingly softer. This is heightened by the use of heavy diffusing media over the light-source, for this again breaks up the light-rays from a hard beam to a softer flood, and tends to "iron out" wrinkles and similar facial imperfections.

This treatment, I found, worked excellently in making these close shots of the ladies. It enabled me to retain the brilliant photographic characteristics of the coated lens, and at the same time create an effect which presented these ladies pleasingly.

In photographing the male characters, especially the suspects, more conventional lighting methods were used. Keg spotlights were employed in the usual manner, with very strong modelling. This took full advantage of the coated lens' characteristics, and gave an effect of strength and masculinity which not only contrasted usefully with the more softly-lit presentation of the ladies, but coordinated well with the dramatic mood of the story.

Another modification in lighting which I found useful was the fact that very little or no front-light was used throughout the picture. For the coated lenses, I have found, have the ability of getting into the shadows in an uncanny manner. Very possibly this characteristic is due to the fact that in eliminating internal flare and reflections, the lens-coating

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HANDLING FILM ON DISTANT LOCATIONS

By GLENN R. KERSHNER, A.S.C.

BEING a globe-trotting cinematographer—whether you're making a photographic record of an exploring expedition or filming atmospheric and background scenes for a studio production — seems to have a glamour no other type of photographic work has. But it also has some special problems and headaches which go a long way to offset the glamour of making pictures in far-away places.

Take Tahiti, for instance. I've been there many times since the long-ago days in 1922 when we went there to film "Lost and Found," the first feature picture to be made in the South Seas. It is one of the most fascinating spots in the world—born of volcanic origin but now covered with rich tropical verdure, Tahiti is a photographer's paradise, with its lofty mountain peaks, flower-filled valleys, waterfalls and flowing rivers, coral reefs and lagoons, and its picturesque, happy, brown-skinned natives.

But the same thirty-seven hundred miles of blue ocean you cross to get to Tahiti also separates you from the laboratory that processes the film you are shooting. Weeks — sometimes months — elapse before you can possibly get the welcome word from the lab that your stuff is OK. Light-conditions here, as in many other far-away spots, are 'way different from those you've been accustomed to back in Hollywood. They can fool your eye, and even deceive the electric eye of your meter. Climatic conditions, especially in the tropics where you have the combination of heat and extreme humidity, can spoil film in a hurry if you don't know how to guard against it. If you're to have any peace at all, you must know for sure that your film is exposed right, and kept right, so that when, back in Hollywood again, you go into the projection-room in the lab, you will see on the screen what you tried to photograph so many months before.

There's been a lot said and written about taking care of films in these distant locations, while most of it is technically correct, I can see that plenty of it has been written by scientific experts who, while they may have the necessary technical data at their fingertips, have had little or no actual experience in the field to show them the many little practical short-cuts that show you what is and what isn't really necessary, and how to get along without deluxe conveniences you can't always have on such trips.

Here, at any rate, are some of the tricks I've learned while wandering with a camera from Papeete to the Arctic.

One of the first and most necessary things—especially when you're working in the tropics—is to learn how important it is to be careful with the loading and unloading of the negative. Sometimes when the weather was too damp I have found it necessary to dehydrate all exposed negative but as a rule I seldom use anything other than the dry paper removed from the unexposed negative.

By forming a habit of reloading the empty side of the magazine first, then removing the exposed negative and wrapping it immediately in the dry paper that has just been removed from the loaded negative you are perfectly safe. The paper has not been exposed to the air long enough to absorb any dampness whatever. Then if there should be any moisture at all on the exposed negative, the dry paper will absorb it.

Chemicals are all right for dehydration providing you have an ample supply, but on expeditions where every little bit of weight is counted I find a piece of soft rock or portion of brick, heated until bone dry, is every bit as good. I might say I have seen some terrible and costly mistakes made by wrapping dehydrated negative in paper that has been exposed to the air and was damp. Paper that has been exposed to moist, tropical air should always be baked and dried out before using.

To guarantee the studio perfect exposure for the particular developing methods of their lab, it is essential for the travelling cameraman to make plenty of tests, and make them accurate. Of course today we have photoelectric light-meters to guide us in making our exposures, and few, if any, really good cinematographers would go into the field without one or better two dependable meters. But—accidents will happen, and besides sometimes local temperature, magnetic and other conditions can throw even the finest meter off. So to be really safe and sure, I've found it is best to have and use a good meter—and to back it up with plenty of tests, made and developed right in the field, immediately after shooting each important scene.

A test-box is a simple little thing to make and use. Just a little, light-tight box with two compartments to hold small bottles of developer and hypo, with light-proof sleeves like those on a changing-bag, and a fitting on the cover so you can take the magazine off your



camera, put it on the test-box, and draw out a few inches of film to be developed for your test. I've carried mine for twenty-three years now, and roamed all over the world with it. And I've noticed that while when I first started using my little test-box, many cinematographers and others laughed at it, now none of them would think of going on location without one.

Now there is still another situation that will confront the cameraman out on the firing line of these expeditions. Naturally we are happy when we have ice and can keep our developers, hypo and wash water at the normal temperature of 65° F. at all times. I have seen the time when my developer was around 45 and no higher on account of the north. Then again I have been in the South Seas on a schooner that was as hot as a tea-kettle, or on an atoll where the sun fairly burned you into a cinder, and the best we could do without ice was to get the test thermometer down to 85°. Now how long were we going to develop the test to see how it looks as to exposure, scratches, perforation punches, dirt, etc.? If we develop the regular time which is too long in the warm solution, the picture will be badly overdeveloped, and probably the emulsion will slip off the film.

Here is a method that we used; I can only speak for what we did and not for what others should do. I was shooting Eastman Super-X film and to develop to a fixed contrast (Gamma=0.65) we set nine minutes as a standard development and here is a table that has helped to solve my problem either in the arctic or torrid zones. When I found my developer 65 the test was developed exactly nine minutes, when the thermometer showed me the developer was 70 I only developed the test 6.8 minutes, or 0.75 as long. If 85° only 2.8 minutes or 0.30 as long. And up in the arctic I did just the reverse. When the developing solution was 50° I had to develop 28

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EVERYONE familiar with modern cinematography is familiar with the value of the light-test or "Cinex strip" as a guide to the Director of Photography in checking many important details of his work, such as lighting-balance, exposure, and the like. This is especially the case on occasions when the cinematographer finds himself returning to a sequence filmed days or weeks before, and trying to match his original treatment for making retakes or added scenes.

However, the physical nature of the light-test strip imposes certain inevitable limitations which, especially in the matter of matching up retakes, can lead to inaccuracies. Since it is printed on normal-sized 35mm. positive film, the small size of the image makes exact study of the finer details of lighting, composition, etc., difficult if visual inspection alone is used. Moreover, considerable error can be introduced by the different impressions of image densities gained by direct visual inspection and by viewing a projected image.

At the same time, a test-strip a scant dozen frames in length is obviously too short to be studied in enlarged form by conventional projection, while the use on the set of a cutter's Moviola is not always convenient. There is also the disadvantage that in most of these viewers the magnified image is not easily viewed by more than one person at a time.

Casting about for some convenient and practical method by which these difficulties could be overcome, both of the writers were impressed by the possibilities offered by the projectors used for viewing 35mm. miniature-camera slides and Kodachrome transparencies. These little projectors are compact and efficient, will operate on either alternating or direct current, and project an excellent image.

However, the majority of these projectors are designed to accept only properly mounted double-frame 35mm. minicam slides, and could not be used for strips of single-frame 35mm. film.

Finally, however, each of us independ-

An Improved Method for Analyzing Light-Tests

By CLYDE DE VINNA, A.S.C.

and

JOSEPH RUTTENBERG, A.S.C.

ently discovered that one manufacturer has for some years been making a miniature projector capable of handling either single-frame or double-frame film strips. This is the SVE Picturol projector, which is made primarily for business and educational use. It has proved excellently adapted for the purposes we wished.

For some time both of us have been using these little projectors to great advantage. By good fortune it happens that this particular design is probably the smallest of 35mm. slide projectors. Therefore they can be very easily stowed in the average camera accessory case, and be always available for use on the set.

In use, it is very simple to find a conveniently dark corner of set or stage, set up the little projector, slip the light-test strip into it, and project an excellent, enlarged image onto a conveniently-sized screen where it can be viewed and studied by the Director of Photography, the Director, if necessary, and by the photographic crew and Gaffer. We generally employ a screen about 24 inches wide for this purpose, though the projector is capable of projecting an image three or four times that size. Some of the small screens made for editing home movies are excellent for this purpose. In an

emergency, a white set-wall has sometimes served adequately as a screen.

Projecting your light-tests this way one has the advantage of the enlarged, projected image which gives an ideal opportunity for studying the finer details of lighting, composition and the like which are ordinarily not well discernible in directly viewing light-tests, and also of being able to judge densities more accurately in the projected image.

The model both of us have been using employs a 100 or 150-Watt globe. However, other models are available which take more powerful lamps, up to about 300 Watts. With some of these higher-powered lamps it should be entirely feasible to adapt the idea for similarly viewing Technicolor "pilot" strips. In this instance it would probably be wiser to use a rather high-powered globe and correct the color-temperature of the light by means of a suitable filter to conform to the arc standard by which Technicolor print color-balance and density are usually judged.

While, as has been pointed out, there is nothing particularly new in the equipment used, we believe that this particular application is new, and of value to studio cinematographers.

PIONEERING IN TALKING PICTURES

By LEE DE FOREST

TO pioneer has always been with me an obsession. Perhaps the yearning to explore new fields was and inheritance from colonial ancestors. Vanished geographical frontiers still left far vaster regions in science and technology to explore. When early wireless began to be a bit crowded the radio telephone field, then scarcely a dream even among communication engineers, beckoned me irresistibly. This primitive beginning of the radio broadcast, in 1908, logically necessitated the development of the electronic amplifier from the audion detector tube, and thus again I managed to escape the crowd. And when, in 1912, this amplifier proved to be also an oscillator, a boundless ocean disclosing alluring archipelagoes of practical application was opened to scientific research.

It then became apparent that many a forgotten dream of other early inventors might finally be brought to realization. Among such in the sea of television were the scanning disk of Nipkow, the cathode beam picture of Rossing, Cambell-Swinton's invention of the cathode-scanning beam (recently perfected in Zworykin's "Iconoscope")—all brilliant conceptions which must needs remain only blueprints and Letters Patent, for the simple lack of an inertialess amplifier of a hundred million magnifying power.

Similarly in acoustics the primitive but all-embracing patent of Fritts, breaking all records, embalmed for thirty-six years in the Patent Office; and that of Elias Ries who in 1913, before the photo-electric cell, or the amplifier which could make it useful, described the remaining essentials of photographic sound-on-film recording and reproducing.

—So many people believe that talking pictures sprang full fledged from "The Jazz Singer" in 1928 that we are delighted to republish this article by Dr. De Forest, which appeared in the Journal of the Society of Motion Pictures Engineers, Vol. XXXVI, January, 1941. Ed.

In 1919, happily unconscious of these then buried documents, I decided the time had at last arrived when sound photography should definitely give a voice to the picture film.

I essayed at first three methods of sound recording, the speaking flame, the tiny incandescent filament, and the glow-tube. The latter soon showed itself to offer the only hope of practical success.

My first demonstrated actual combination of sound-on-film and talking picture was at my old High Bridge, New York, laboratory in the spring of 1921, shortly before I removed to Berlin. My then assistant, William Garity, still cherishes a few film samples of himself holding the hand microphone, while I served as cameraman.

This early work, when apparently only we two (and he, somewhat skeptically) believed there was a commercial future for the talking picture, evidently sank deep within his soul; for today Garity is chief factotum for Walt Disney; possibly because that primitive recording was chiefly suggestive to him of the squeaks of Mickey Mouse.

It was in the spring of that year, 1921, that my difficulties in developing properly a sadly underexposed sound record and overexposed picture on the same film suggested the use of two separate, synchronized negatives, one for the picture, one for the sound, each given its proper development, and each printed successively on a common positive.

My patent application covering this basic principle was finally rejected after a bitterly contested interference proceeding with that by the Tri-Ergon inventors. The destiny of this latter patent in our Supreme Court is now recent history, familiar to all. I still maintain, however, that here resided a genuine invention, once a total novelty, and now of tremendous practical value.

Shortly after my return to America a year later, in 1922, and my installation in a genuine motion picture studio, that ancient remodelled brewery of Tec-Art on East 48th Street, I was visited by Theodore Case of Auburn, N. Y. He watched my work and shortly thereafter summoned me to his laboratory to show me a gassy Western Electric amplifier bulb whose "blue haze" was fluttering in accord with telephone currents from his microphone. Forthwith I sketched out the first oxide-coated cathode glow-tube, which he and E. I. Sponable, his gifted assistant, constructed and named the "AEO light" (Dec., 1922); whereupon I proceeded to scrap my radio-frequency recording oscillator and metal-cathode glow-tubes in favor of this low-voltage direct-current source. I also discarded my Kuntz photoelectric cells, difficult to obtain with uniform quality, in favor of the far more sensitive Case "Thalafide" (resistance) cell, enthusiastically regardless of the fact that the latter cut off quite effectively below 3000 cycles.

After this experience I returned to the use of the photoelectric cell with resultant gain in quality, and to the use of the metal cathode recording light, but designed to operate on low voltages, thus obviating the use of the radio-frequency oscillator of my first system. I shall refer to this feature hereafter.

But now the more directly commercial requirements, following upon my introduction of the "Phonofilm" to Broadway audiences under the far-visioned sponsorship of Dr. Riesenfeld, at the Rivoli and Rialto Theaters on April 15, 1923 resulted in filing early patent applications in 1923-25 on such extremely practical inventions as these: the use of two or more picture cameras at different angles and focal distances, all synchronized to a common sound-record-

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Right, Warner Bros. Ripple Machine. Left, the result as seen in a scene from "The Sea Wolf."

FREEDOM OF THE SEAS-- ON A SOUND STAGE

By

ANTON GROT and LEO KUTER

FREEDOM of the seas—on a sound stage—was the objective that actuated the design of the "Ripple Machine." Officially, it has a much longer title, being known at the U. S. Patent office as "The Water Ripple and Wave Illusion Machine." The Academy of Motion Picture Arts and Sciences also used this longer designation when honoring us with an award this year. But for the purposes of our account, let's just call it the Ripple machine.

Why design a machine, you may ask, when satisfactory results can be obtained through the use of marine "process" or "transparency" shots? Have you ever tried panning or moving your camera about when shooting process? You have no freedom of action or movement. It was to give the director and cinematographer such freedom within studio confines that a marine stage was equipped at Warner Brothers.

By use of the Ripple machine, a degree of perfection was attained that presented the illusion of unlimited lengths of distant marine horizon, impossible with projected backgrounds.

The machine is built in units fifteen feet long. They may with ease be joined in series, and when placed behind a mus-

lin or similar backdrop, and illuminated, the three vertically-suspended transparent screens being actuated, the opaque wave patterns thereon provide an effective simulation of the undulating surface of a natural body of water. The machines are designed so as to permit setting the horizon level at any height desired.

We first utilized the wave illusion in the production of "The Sea Hawk," and later, with several improvements, in "The Sea Wolf," just released. Both of these pictures had been filmed previously, but under much different circumstances. Both had been photographed actually at sea.

In the case of "The Sea Hawk," in its first production sixteen years ago, real ship hulls were used, over which 16th Century superstructures were built. Topheavy and cumbersome, the rebuilt vessels were a menace to the lives of those who sailed them off the Southern California coast.

No need to go into the added production costs, the inconvenience of navigating unseaworthy craft or the delays caused by landlubbers among the cast and studio crew. In those days, it was unthinkable that the same latitude and

freedom of action could be duplicated on a studio stage as was then enjoyed by the use of a camera at sea. But the technical aspects of the motion picture have advanced greatly in the last five years—thanks to the close cooperation of art directors and cinematographers.

Five years ago, initial experiments were carried on toward the objective of shooting a sea picture entirely on a sound stage. This was for the production of "Captain Blood." And this is how it was done.

Stationary and moving ships were constructed on a regular stage floor, with painted backings to represent the sea and sky. Here and there a few piano wires were strung horizontally over the sea areas, with shining, glittery materials fluttering from them. This in an attempt to simulate light patterns on the water.

The attempt was reasonably successful. But inasmuch as the ships did not rock or roll, the backings had to be rocked and pulled up and down by laborers. The shortness of backing lengths did not allow the cinematographer much leeway to pan his camera. The result was that action was reduced to short widths, with many cuts, and the illusion of interminable distances was rarely obtained.

The experiment did, however, prove one point. Motion pictures did not have to go to sea to film a sea story. The public was satisfied with what it saw on the screen in "Captain Blood."

Improvements were demanded for the production of "The Sea Hawk" last year. For one thing, the script specified action difficult to obtain unless the ships were motivated. We went to work on the problem of making them rock and roll, toss and twist. The stationary back-

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Miller Wins Preview Poll

The critics participating in the Hollywood Reporter's Preview Poll pronounced twentieth Century-Fox's "Tobacco Road," photographed by **Arthur Miller, A.S.C.**, the outstanding photographic achievement among the films previewed during February. Second place went to **Victor Milner, A.S.C.**, for his camera treatment of Paramount's "The Lady Eve," with third place going to **William Daniels, A.S.C.**, for Universal's "Back Street." The contest was again a virtual photofinish, especially as regards the runner-up positions. But one vote separated **Milner** and **Daniels** in determining the final showing.

You can't keep a good man down! The big news-story of the month is Paramount's decision to elevate **Ted Tetzlaff, A.S.C.**, to Director. **Ted's** richly-deserved promotion came as a surprise even to his closest associates—not that they doubt his qualifications, but that they had never heard him express a desire to direct, and assumed he was satisfied to remain as one of Paramount's ace Directors of Photography. His first assignment will be "World Premiere," the top-budget production of the Sol Siegel unit. Congratulations, **Ted**!

The other day on the "Billy the Kid" set at MGM, someone made a crack to us about never printing his name in this department. We won't say who it was—but his name begins with S. Quite an alliterative troupe, that, by the way, what with Director of Photography **Len Smith, A.S.C.**, technicolor ditto **Billy Skall, A.S.C.**, and Operative Cinematographer **Charles Salerno**, all trying to beat the Hughes-Toland version of the same story to release!

Looks as though Warner Bros. are trying to corner the market on outstanding production and aerial cinematographers for their Technicolor "Dive Bomber." They've signed **Bert Glannon, A.S.C.**, as Director of Photography, and inked both **Elmer Dyer, A.S.C.**, and **Charles Marshall, A.S.C.**, to insure top-flight air-flight air-shots.

Peverell Marley, A.S.C., celebrates an anniversary with completion of Twentieth Century-Fox's "Miami." It's his 75th production as Director of Photography. In addition to being a good cinematographer, he must be a good one to work with, for five members of his crew, including **Lee Crawford**, **Irving Rosenberg**, **Billy Abbott**, **Al Thayer** and **Eddie Pelzolt**, have been with him continuously since 1924.

March seems to have been a bad month along Gower St. Down at RKO, **Merritt B. Gerstad, A.S.C.**, yielded to the flu for three days while **Harry**

A.S.C. on Parade

Wild, A.S.C., batted for him on "Tom, Dick and Harry." Up at the other end of the street, at Columbia, **Al Siegler, A.S.C.**, did the same thing, and **Henry Sharp, A.S.C.**, kept "Senate Page Boys" rolling.

George Barnes, A.S.C., draws the assignment to photograph Alexander Korda's "Illusions."

Add defense notes: Universal's **Johnny Fulton, A.S.C.**, is down in San Diego making backgrounds for the coming Abbott-Costello laugh-fest, "You're In the Navy Now." And **John**, you know, is a lieutenant in the Navy Air Reserve.

J. Arthur Ball, A.S.C., reports an inaccuracy in last month's story about **Ray Rennahan, A.S.C.** **Arthur** rises to remind us that he and **A.S.C.-Prexy John Arnold** also had a hand in photographing "Toll of the Sea," way back when Technicolor was a two-color pup. We're sorry!

Charles Lang, A.S.C., gets the assignment to film "Nothing But the Truth" for Paramount.

If you read last month's review of **Ted Sparkuhl's** film "The Hard-boiled Canary," don't be misled. Paramount suddenly decided they had a good picture on their hands, and are releasing it under the original title, "There's Magic in Music."

Max Fabian just finished "Watchdog of a Nation," Carey Wilson miniature for MGM.

Art Lloyd, A.S.C.,—where's that picture of Butch?

George Meehan, A.S.C., filming "The Officer and the Lady" for Columbia.

Earnest Haller, A.S.C., directs the photography of Warner Bros.' "Manpower."

John Alton, A.S.C., takes time out from his "Dr. Christian" duties to film "Forced Landing" for Paramount's two Bills—Pine and Thomas.

Dewey Wrigley, A.S.C., off to Miami for backgrounds of Paramount's "Nothing But the Truth."

Joe August, A.S.C., draws the plum of lensing William Dieterle's first RKO production, "A Certain Mr. Scratch."

Oliver T. Marsh, A.S.C., is assigned to photograph MGM's latest remake of "Smilin' Through." We can't recall any film which, through successive remakes, has had the attention of greater photographic talent. As we recall it, **Gaetano**

Gaudio, A.S.C., did one version with **Norma Talmadge**, and **Wm. Daniels, A.S.C.**, one or two more with **Norma Shearer**. With **Ollie** added to this aggregation, it makes an uncommonly distinguished camera crew!

Strange, what California does to people. Back before the industry moved west, all the boys were angling for assignments to Florida location-trips about this time of year. But here's **Eddie Linden, A.S.C.**, doing just the reverse. We hear he actually declined an offer to do a picture in Florida. California Chamber of Commerce please note!

We can thank columnist **Jimmie Fiddler** for a new twist on the old argument over the merits of black-and-white and color movies—and one which gives a national break in the Fiddler column to two A.S.C. members. It appears, so he says, that monochrome adherent **Leon Shamroy, A.S.C.**, and Technicolorist **Ray Rennahan, A.S.C.**, were arguing the matter on the "Great American Broadcast" set. Finally **Leon**, to prove his point, had **Alice Faye** parade past a group of extras, then asked them what color were her eyes. Not a one could tell. "There, that proves my point that color isn't important!" exulted **Shamroy**. "Not a bit," replied the quick-witted **Rennahan**, "just look at her costume!"

Fred Mayer, A.S.C.

The camera profession suffered a loss in the sudden passing of **Fred Mayer, A.S.C.**, on March 7th. A long-time member of the American Society of Cinematographers, and associated with the Metro-Goldwyn-Mayer Studio at the time of his death, **Mayer** is survived by his mother and a sister. To them the A.S.C. and its members extend their most sincere sympathy. **Fred Mayer** will be missed by all who knew and worked with him.

Herman A. De Vry

As we go to press we are saddened by a message informing us that **Dr. Herman A. De Vry**, pioneer designer of cinemachinery and one of the truly "grand old men" of the industry, passed away suddenly on Sunday, March 23rd. **Dr. De Vry's** connection with the industry began in 1913, and among his achievements may be listed the invention of the suitcase-type 35mm. portable projector, pioneering in the building of both 35mm. and 16mm. sound projectors, and the development of the famous 35mm. hand-camera which bears his name. To his son, **William C. De Vry**, and to his associates at the De Vry Corporation, our heartfelt sympathy.

THROUGH the EDITOR'S FINDER

THIS year's Academy Award for "special-effects" raises a question in our mind and, we believe, in the minds of a majority of the camera profession. Briefly, that question is: *for what sort of "special-effects" achievement is that Award given?*

We've talked with a number of the Directors of Special-process Photography who were members of the committee which determined that Award. All of them expressed more or less amazement at their committee's decision. Some of them frankly told us that they had voted for a different production, one in which they felt the achievement in special-effects photography was greater and more significant.

But the membership of the committee included not only photographic experts, but also recording engineers and Art Directors. These men, looking at the nominated sequences with an eye (and an ear) to achievements in their own fields, did not see eye to eye with the photographic members of the group. Accordingly, we see a production in which there was acknowledged outstanding special use of sound, and special set-construction, but which from the photographic point of view, while excellent, was none the less inferior to some of the other nominations, given an Award which, in the minds of the industry and the general public, is synonymous with outstanding achievement in special-effects photography.

The actual phrasing under which the Academy's special-effects Award was set up states, we realize, that it is given for outstanding achievement in the special-effects use of sound and photography, so in the strictly technical sense, the Award has probably been given correctly. But in a broader sense, we wonder if this set-up does not make for injustice to all concerned. Sometimes a special-effects sequence may combine outstanding photographic effects and outstanding special-effects recording, as was the case with "San Francisco," winner of a few years ago. But in general, outstanding achievement in the visual field does not by any means al-

ways imply that the accompanying use of sound may be equally outstanding—and by the same token, outstanding special effects-sound does not necessarily have to be accompanied by correspondingly noteworthy photographic effects.

It seems to us that trying to judge special-effects work under the present system, where photography and sound

present Academy Awards classifications has grown so much of late that it is in danger of becoming unwieldy. Clearly, there must be a limit to the number of these Awards if they are to continue to mean anything. But our industry is big enough to recognize outstanding achievement in production sound and photography and should in justice to the men involved, and to the Awards themselves, recognize that special-effects achievements in sound and in picture are two distinct entities, and as such entitled to *individual* recognition.

WHEN an important major production is released, the critics usually reward the Director of Photography with complimentary phrases, terming his work "georgeous," "breath-takingly beautiful," and so on. When on the other hand, the industry's less important films are previewed, the critic, if he acknowledges photography at all, usually dismisses it briefly with the comment that it is "adequate," "standard," or some equally innocuous phrase.

Yet frequently the man in charge of the less pretentious production has, in his way, achieved more greatly than the man on the highly-publicized super-special. All too often he has heart-breaking conditions with which to contend. He seldom has new sets; instead, he must make remodelled old ones look new, concealing the fact that the same set has appeared previously in at least one "A" production and probably many a "B." He often has limited facilities as regards equipment; we've known of cinematographers who have incurred the displeasure of "B-picture" producers by insisting on half-a-dozen "snouts." And always he is fighting the clock. Where his fellow on the big picture, shooting perhaps half-a-dozen set-ups per day,

can take the time needed to produce perfection in every detail and effect, he must make from thirty to fifty or sixty set-ups per day, and every minute spent in polishing lighting, or moving props or walls to permit more effective camera-angles is considered so much valuable time wasted.

Directors of Photography Unique Artists-Executives!

THE Director of Photography or First Cinematographer is a creative artist, functioning in an executive capacity—unique and irreplaceable! This is not the statement of the writer, the A.S.C., or any of its officers—though this has been the Society's contention for more than two decades—but the considered opinion of official representatives of labor organizations which during recent years have previously taken the exactly opposite stand, holding that Directors of Photography or First Cinematographers were in the same category as other members of the photographic staff, save, perhaps, as regards salaries and conditions, and should be so considered.

But during the closing week in March, at an official hearing before the Wages and Hours Division of the United States Department of Labor, these gentlemen repeatedly stressed the fact that the work and responsibilities of the First Cinematographer or Director of Photography are essentially different from those of his photographic crew. They testified that the Director of Photography or First Cinematographer was the creative artist of the photographic staff—a professional man, an artist and an executive, and as such, to borrow the favorite phrase of studio contracts, "unique and irreplaceable," and therefore not within the provisions of the Wage and Hour Act.

We would like to thank these gentlemen who so very recently held such different views for the excellent way they have summed up the status of the Director of Photography or First Cinematographer. What we have been saying for more than twenty years, they now say for us, and make it a matter of court record. We appreciate the compliment.

are considered together, must inevitably work an injustice on either the sound or the picture achievement. Would it not be better—and vastly more fair—to provide separate Awards for special-effects photography and special-effects sound?

We fully realize that the number of

PHOTOGRAPHY OF THE MONTH

THAT HAMILTON WOMAN!

Alexander Korda Production, United Artists' Release.

Director of Photography: Rudolph Maté, A.S.C.

Special Sequences photographed by Edward Linden, A.S.C.

In many ways, "That Hamilton Woman!" is the finest work Director of Photography Rudolph Maté, A.S.C., has yet done. Covering an extremely wide range of settings and dramatic moods, Maté's visual treatment of the film combines the fine sensitiveness of the true artist and the technical skill of the thorough craftsman. It should definitely enhance his professional stature.

To this reviewer, the most appealing thing about the production was the way in which Maté repeatedly dared to do the unconventional where it would heighten the emotional effect being portrayed. This is brought out within the film's first few hundred feet. Conventionally, the photo-dramatic mood of a production is usually established at the start of a film, and any changes thereafter are approached slowly and cautiously. But in "That Hamilton Woman!", Maté opens the film with an introductory sequence treated with sombre, low-keyed lighting, soft shadows and greyish diffusion—and then, entering the story proper, suddenly switches to a much higher key, stronger contrasts and a crispness which bespeaks almost complete abandonment of diffusion. Under many conditions, such treatment would seem simply slipshod camera-work: but in this instance, it definitely highlights the emotional transition of the story.

Maté's diffusion technique throughout is interesting. Much of the action is filmed with little or none, and when the story's growing undercurrent of tragedy begins to demand it, diffusion (and of a different type to that used in the introduction) is introduced so subtly one is seldom if ever conscious of it. In several sequences, too, it may be noted that Maté reverses the customary procedure of glamorizing the feminine star with diffusion, and making the male star more virile by its absence: he diffuses many shots of Laurence Olivier and leaves undiffused the intercut scenes of Vivien Leigh! The effect—unconventional as it may seem—is strangely interesting and appropriate.

His treatment of lighting is equally daring. The familiar saying that a great cinematographer is paid more for shadows than for highlights is beautifully exemplified here. Repeatedly Maté carries out the cast shadow-patterns used on the sets to add both realism and pictorial appeal to the faces of his principal players. And he is never afraid to allow his stars to appear in deep—sometimes almost opaque—shadows. It

is an interesting thing to note that both of the stars each have at least one dramatically important scene in which the principal player's face—and sometimes his or her form, as well—is hidden from the audience in shadow. One of Vivien Leigh's most important scenes, for example, is played in a two-shot with Olivier. Both are facing the camera. He is speaking, but it is *her* scene: her reaction to his words is the vital element. But although she is nearer the camera, and facing it, her face is almost completely lost in the shadow; all that can be seen is a faint outline, with a suggestion of glistening eyes. Ordinarily, this might be termed poor camera-treatment: in this case, it is exactly the reverse, for it gives the audience full opportunity to *imagine* her reactions—to visualize them mentally, and so doing, to idealize them, making the scene doubly powerful dramatically. In addition, this treatment conserves the dramatic power of the star, for playing the scene thus, leaving it so greatly to audience-imagination, in the later scene, in which she learns of Olivier's death, she can face the camera with confidence of not having spent her histrionic strength in the earlier scene.

In other scenes, Maté again uses shadows for excellent effect, as in one in which he has Miss Leigh in a broad, heavy shadow, revealing first one profile and then the other in cameo-like highlight as she turns, first away from and then toward her lover. A great deal must be said in commendation of Producer-Director Alexander Korda, too, for having the artistic appreciation to permit such photographic unconventionalities which, even though on the screen they do much to enhance the picture, must inevitably have seemed risky business in the actual shooting.

Maté's camerawork and lighting, too, did much to enhance the splendor of the rich settings provided by Award-winning Art Director Vincent Korda and his associate Lyle Reynolds Wheeler.

The credit extended to Edward Linden, A.S.C.—"special sequences"—is so broad as to be a bit ambiguous, especially in view of crediting Lawrence Butler, a non-photographer, for "special effects," but in view of Linden's acknowledged skill with miniatures—as witness "King Kong," "Last Days of Pompeii," and many others—we're inclined to assume that this work was Linden's special contribution. Certainly, "That Hamilton Woman!" makes more extensive use of miniatures than any film we've seen in many months. And they are for the most part excellent miniatures, too. The movements of the British fleet, and particularly the Battle of Trafalgar, are suggested in much greater detail than we would have thought practical under present conditions, for ship-miniatures

are expensive luxuries. In "That Hamilton Woman!" they are used in remarkable profusion and, with the exception of one or two shots, to very excellent effect. The projected-background scenes, unfortunately, do not all fare so happily. Especially in some of those aboard the battleship, neither the definition or perspective of the background are as well coordinated with the foreground as would be desirable. It should be mentioned, however, that the use of backings—especially those of Naples and Vesuvius—is uncommonly fine.

THE MAN WHO LOST HIMSELF

Universal Production.

Director of Photography: Victor Milner, A.S.C.

Special-effects Photography: John P. Fulton, A.S.C.

To the photographically-minded, this production might well be titled "The Cinematographer Who Found Himself," for in it the work of Director of Photography Victor Milner, A.S.C., "finds itself" in brilliant fashion. For many years Paramount seemed to have a virtual monopoly on the making of highly-polished comedy-dramas, thanks to the redoubtable team of Director Ernst Lubitsch and Director of Photography Victor Milner, A.S.C. With the dissolution of this team, Milner carried on to receive one Academy Award and nomination for several others; but to this writer, at least, there seemed to be something missing from much of Milner's later work: it lacked the indefinable "Milner touch" which had so perfectly complemented the "Lubitsch touch" on so many memorable productions. Part of this was no doubt due to the scarcity of suitable vehicles for this particular treatment; part of it must, too, have been due to the necessity for adapting himself to the vastly different photo-dramatic requirements of teaming with DeMille.

But in "The Man Who Lost Himself" the "Milner touch" again emerges—and what a welcome reappearance it is! Not that "The Man Who Lost Himself" is photographically spectacular; it is the exact opposite—a production so perfectly photographed that one is all too likely to forget photography entirely while enjoying an evening's diverting entertainment. But beneath all this is camerawork so smoothly brilliant that at every step it enhances the dramatic values of the production—lighting that lends sparkle to each scene and line, coupled with an extremely subtle diffusion technique which maintains all the brilliance of visual mood without stressing brilliance to the point where it becomes harsh and out of key.

Feminine star Kay Francis in particular should owe Milner a debt of gratitude

for what he has achieved in this picture. It would be ungallant to remind the lady how long it has been since the days when she was the epitome of feminine glamour on the screen—but it has been a long time, as pictures go. But with the exception of a couple of shots in which direction and dramatic requirements placed both the star and the man at the camera at unreasonable disadvantage, Milner has photographed her in such a way that you cannot help remarking how little toll the years have taken. And there are some close-ups of her—especially the close shots late in the picture as she plays the piano—when you mentally chide the hero for being so chivalrously slow on the uptake.

The special-effects photography of John Fulton, A.S.C., is no less notable. The early sequences of the film establish Brian Aherne's dual-role characterizations with some of the finest split-screen shots seen in a very long time. There are all too few of these shots, for they are done so smoothly and convincingly that it is a pleasure to watch them. In one, by the way, Fulton appears to have caught something of the tongue-in-cheek insouciance which characterizes the rest of this breezy film: he painstakingly establishes a shadow across the table at which the scene is played—and just as you are beginning to feel that this conceals an illy-matched matte-line he fools you by having one character lean well across what you thought must be the dividing line between takes!

His other special-process contributions were excellent, though it must be admitted one wishes he could have had one more angle to use as background for the chase sequence in the concluding minutes of the picture. The settings of Art Director Jack Otterson are, as usual, worthy of commendation, as is the film-editing of Milton Carruth and the musical scoring of Charles Previn.

THAT NIGHT IN RIO

Twentieth Century-Fox Production
(Technicolor).

Directors of Photography: Leon Shamroy, A.S.C., and Ray Rennahan, A.S.C.

Twentieth Century-Fox seems to be developing an individual technique of turning out standout Technicolor musicals. "That Night in Rio," the latest of these, is from the strictly photographic viewpoint the finest of the lot. Directors of Photography Leon Shamroy, A.S.C., and Ray Rennahan, A.S.C., have in bringing this film to the screen topped their Academy Award-nominated achievement on the previous "Down Argentine Way."

Photographically, "That Night in Rio" is a delight. For sheer Technicolored pictorial beauty it has seldom been surpassed. Rennahan and Shamroy have taken the uncommonly fine sets provided by Art Directors Richard Day and Joseph C. Wright and the costumes of Travis Banton, and by means of skillful color-lighting and composition have made them into a thrillingly beautiful picture. There is scarcely a single scene in the production which is not an out-

standing example of pictorial composition.

The various night-club sequences—especially the opening and closing ones—gave Rennahan an opportunity to exercise his penchant for projected color-lightings, which he has done with extremely interesting effect. Many of the other sequences make use of color-lighting to excellent effect, too, although on a more restrained scale. Among these may be mentioned the surpassingly lovely scenes in Alice Faye's bedroom, in which the warmer tones of unfiltered inkies outlining the bed, in the soft gray set, provide fascinating compositional effects.

On the other side of the ledger, some defects must be admitted. In her earlier scenes, Miss Faye, for example, shows all too plainly that even the combined skill of Shamroy and Rennahan cannot fully offset the effects of the ill-health which had forced her withdrawal from her previous assignment to "Down Argentine Way." From the opening of the party sequence, however, the directors of photography seem to have gotten the situation more clearly in hand, as her appearance thereafter was quite satisfactory. The problem seems to have been complicated, too, by a none too attractive coiffure. The other players suffered to some extent from inconsistent make-up, with a correspondingly uneven facial rendition. This was particularly noticeable in some of Don Ameche's scenes, though some of these might conceivably have been caused by an unsuccessful attempt to bring a blush to his manly visage by means of inadequate projected color.

In one long series of otherwise excellent close-ups of Alice Faye, as she sings in the cafe bar, the composition is definitely harmed by the presence in the extreme background of an extra woman in a too strongly blue gown which, even though extremely out of focus, is still a sufficiently strong tonal intrusion to distract the eye from the star's face; a softer-toned gown—gray or pastel blue—would have been far preferable. It also seemed to this reviewer that this scene would have been more effective if made with a lens of shorter focal length which would have given a more natural depth of field.

The dual role played by Don Ameche involved three split-screen shots, none of which are any too-well executed. The first one, it must be said, is one of the worst seen in a long time; it is extremely crude, and the matte-line is so obvious a child could notice it. The second is slightly better, while the third—the concluding scene of the film—is adequate, but by no means on a par with the quality camerawork of the rest of the production. Even allowing for the added complication of special-effects work in a three-film color process, these three shots are so inferior as to harm the production. It would seem, too, as though more camera-wise planning of the script could have taken advantage of the possibilities of projected-background process work for some of these dual-role scenes,

permitting one character to "cross" the other and thus avoiding the rather stilted effect of the ordinary split-screen action involved. The treatment of the handshaking between the two Ameche characters—played in individual medium-shots—is also rather too obvious. On the other hand, the single projected background the film contains—the brief sequence in the airport office—is quite good.

All told, "That Night in Rio" is a picture no one interested in the pictorial possibilities of Technicolor should miss.

I WANTED WINGS.

Paramount Production.

Director of Photography: Leo Tover, A.S.C.

Aerial Photography by: Elmer G. Dyer, A.S.C.

Transparency Process Photography by: Farciot Edouart, A.S.C.

Special Photographic Effects by: Gordon Jennings, A.S.C.

At the start of "I Wanted Wings," a separate title-card is used to give the four-starred photographic credits of the production. And nowhere has such recognition of the Cinematographer's achievements been more richly deserved. "I Wanted Wings" is tops among air films not because of an excellent cast, excellent direction and a more than ordinary good story for such a production, but because of the achievements of the men at the cameras, their uncredited associates and crews. Without the superlative technical and artistic skill these men have put into their work, the production could never have been brought to the screen.

Director of Photography Leo Tover, A.S.C., had a difficult and thankless assignment in this one. In a production of this nature, with settings largely restricted to severe Army barracks, hangars and the like, and the action and characterizations largely of the rugged, masculine type, pictorial photographic opportunities are extremely limited—and the aerial shots are likely to steal the show, anyway. But Tover's work stands up under critical examination. His set-lightings are realistic and, wherever possible, pictorially effective as well. His treatment of the players is excellent, especially in regard to the male players, to whom he gives virile photographic treatment without going to the extreme of giving them exaggerated "character" lightings. He does very well indeed by both of the film's two feminine players, though it must be admitted that Veronica Lake's make-up is a handicap to his efforts. His crew also deserves commendation for their execution of the rather unusual number of dolly-shots, interior and exterior, in the film. "I Wanted Wings" displays some of the smoothest operative and assistant camerawork we've seen from Paramount in some time.

The aerial camerawork of Aerial Specialist Elmer G. Dyer, A.S.C., is in many ways his finest achievement. From start

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BELL & HOWELL'S

First Professional Sixteen

By WILLIAM STULL, A.S.C.

FOR a number of years rumors have been rife that one or both of the two major firms which have between them made virtually all the 35mm. cameras used in Hollywood's studios were turning their attention to the creation of a truly professional 16mm. camera. This has been especially true of Bell & Howell, already firmly established in the substandard field with a line of outstanding 16mm. cameras for amateur and semi-professional use. For the past two or three years increasingly specified rumors emanating from Chicago have indicated that Bell & Howell's first professional sixteen was proving sensational in tests, and would soon be on the market.

Today, that camera has finally arrived. While the Chicago firm is discreetly silent as to future plans and production, the first experimental model of the Bell & Howell professional 16mm. camera has been under test by several major studios and is now owned by Harry Wayne McMahan, the well-known commercial 16mm. producer and head of United States Motion Pictures, of Burbank, California. And it is definitely the outstanding news of the season for serious users of 16mm. It is the first substandard camera this writer has seen which throughout follows professional 35mm. practice rather than conventional 16mm. practice in design and construction. It is definitely a modern studio camera, with all the refinements and precision construction of a professional 35mm. camera, designed and built for 16mm. film.

The heart of any camera is its intermittent movement. This one is provided with two, which may be used interchangeably. The first is for microscopically accurate registration in the silent filming which forms such a large part of present-day direct 16mm. commercial production. The second is a silenced movement for use with direct-recorded sound.

The silent-picture movement is in brief a miniature of the famous Bell & Howell cam-and-shuttle pilot-pin registering movement which for more than thirty years has been acknowledged as the epitome of accuracy in 35mm. registration. In most conventional film movements the film slides through a polished channel and is moved downward between exposures by a pair of fingers which move forward to engage the film's perforations, then move downward to move

the film as requisite, and finally disengage, leaving the film motionless for the exposure while the fingers move in an upward arc to return to their original position for the next cycle. In some designs, the film is held in place during exposure merely by the pressure of a spring-tensioned side-rail along one edge of the film, pressing it against a fixed rail on the opposite side, or by a spring-tensioned pressure-plate which may or may not act intermittently, forcing the film against the aperture-plate in front. In other designs—especially in 35mm.—intermittently-operating registering-pins slide into the film-perforations to hold it accurately in place during the exposure.

In the Bell & Howell cam-and-shuttle registering intermittent movement used in the new professional sixteen, the film is threaded between two intermittently-operating registering shuttle-leaves. These leaves control the film at all times, releasing during the take-down to allow the film an absolutely free travel. At the start of the take-down cycle, the shuttle moves the film straight back, impaling two perforations on the take-down claws, and then releasing tension. The take-down claws move straight down, moving the film with them. At the bottom of their travel, the shuttle again grips the film and moves it straight forward, impaling its perforations on two fixed registering-pins, made of tool-steel and shaped with microscopic accuracy to fit the perforations precisely. These pilot-pins, together with the registering-leaves, hold the film in place during the exposure with absolute accuracy and flatness. Meanwhile, the take-down fingers move straight upward—not in an arc—to return to the starting position for the next cycle, when the registering-leaves again bring the film back to them. This intermittent is very simply operated: a tool-steel yoke, riding a heart-shaped cam on the camera's main driving-shaft, operates the up-and-down movement of the take-down fingers, while a cam roller, riding a cam-slot in the same shaft, actuates the register-leaves.

While this movement is one of the most accurate ever devised for moving film in a cine-camera, it is not the quietest, though it must be stated that the present 16mm. version appears to run more quietly than do many major-studio 35mm. cameras when out of their blimps. To provide for sound use, however, a more conventional movement is pro-

vided. This is interchangeable with the shuttle movement, and provides the conventional spring-tensioned pressure-plate and claw-type pull-down.

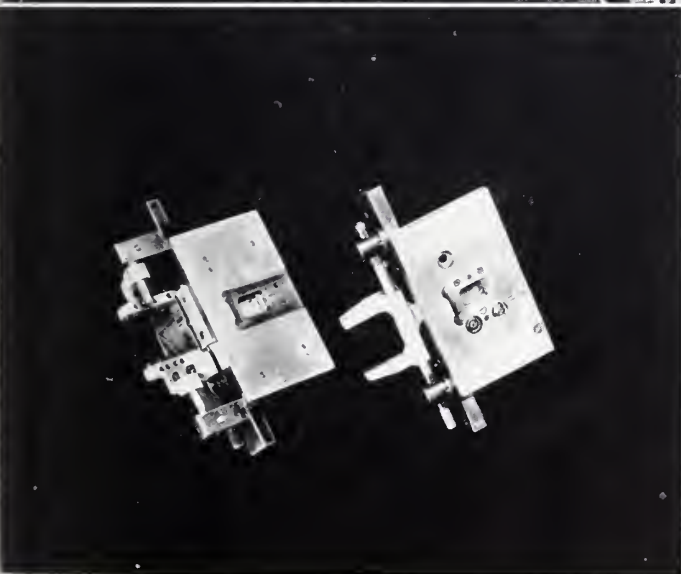
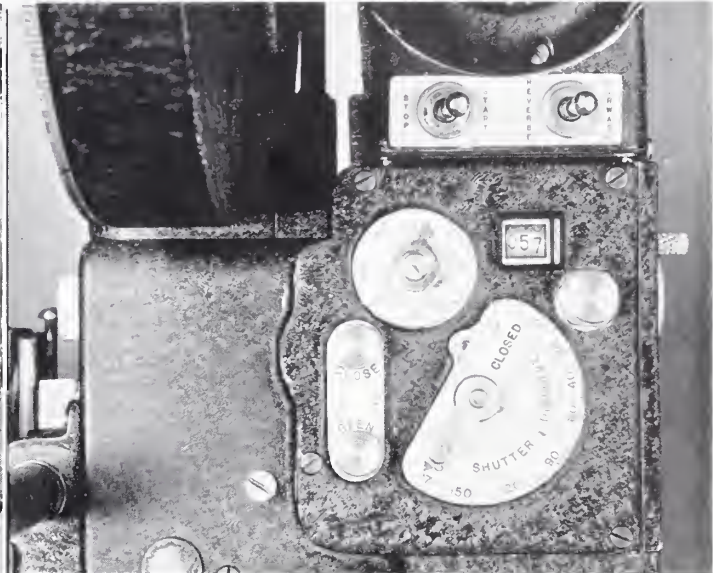
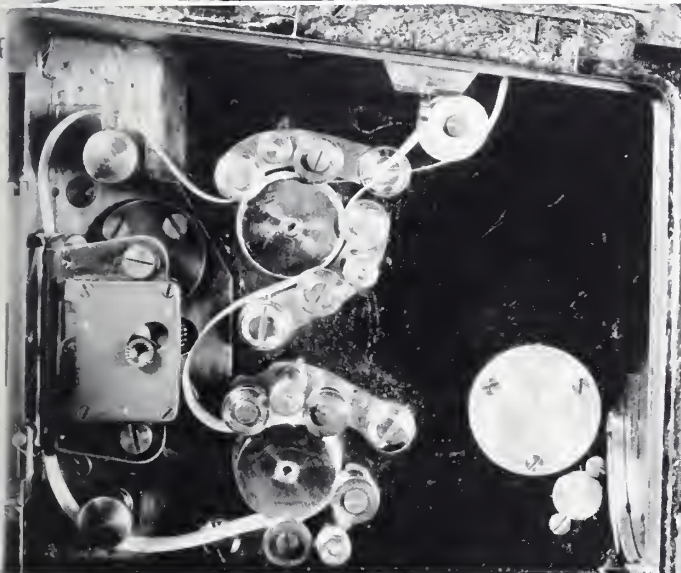
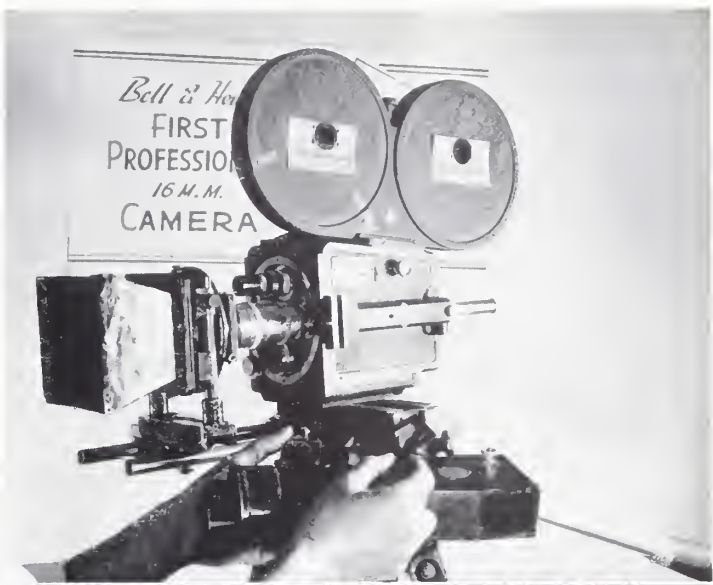
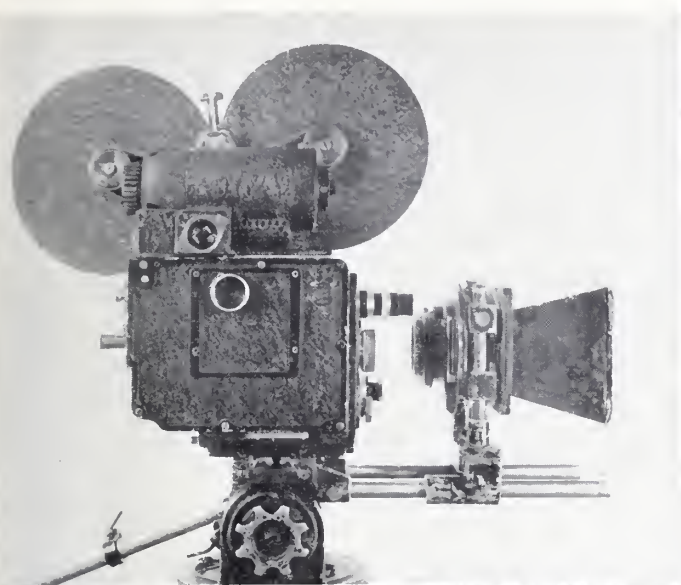
The camera itself is roughly box-form in shape, with the familiar professional-type outside film-magazines. An unusually large four-lens turret is provided at the front, so amply proportioned that 3 or 4-inch lenses may be left mounted on the turret when using a 15mm. wide-angle lens, without interference.

The focusing arrangement is unusually interesting. The lens-turret is carried on an L-shaped casting, the lower member of which forms the base of the camera-head. Within this L the camera-box proper is mounted, sliding laterally on a ball-bearing slide. When a release-button is pressed, the head slides easily to the right, bringing into place behind the lens a focusing magnifier, mounted on the camera-door, and carrying at one end a ground-glass focusing screen in precisely the same focal plane as the film. The magnifying system permits viewing the image on this focusing screen in professional fashion, erect and laterally correct. Adjustable magnifying units permit either a moderately-enlarged full-frame image, or for precision focusing, a highly-magnified image of the central portion, as is the practice in most 35mm. studio cameras. The eyepiece is adjustable to the individual eye. The rack-over movement is perhaps the most easily operated this writer has seen.

The operating controls are conveniently grouped at the rear of the case. These controls include a manual control for the 170-degree shutter, frame and footage counters, and buttons controlling the automatic shutter-dissolve. With this fitting, making a fade or dissolve in 16mm. is at least as easy and accurate as in silent 35mm. practice. To fade out when the camera is running, all that is necessary is to press the fade-out button, and the shutter automatically closes in 1½ feet of film; when it is closed, a brake is automatically applied and the motor disconnected. To complete a lap-dissolve, the button releasing the brake is pressed, the motor reversed, and the film is quickly wound back to the starting point. At this point, the motor is again switched to 'forward,' and the fade-out is made by simply pressing the fade-in button.

Two driving motors are at present used with the camera; both are mounted at the top of the case on the right-hand side. The first is a variable-speed motor for "wild" or silent shots. It operates on either 110-Volt Alternating Current or from batteries, and runs either forward or backward. The second is a 110-Volt synchronous motor for use while making double-system direct-recorded sound. A third motor may also be fitted, as the right-hand side-plate of the camera may be removed and any standard 35mm. motor fitted in place, driving the camera's stop-motion shaft. Normally this shaft extends through the side-

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Bell & Howell's first Professional 16mm. camera. Top: right and left-side views of the camera. Middle, left, interior, showing pilot-pin movement; right, grouping of controls at rear of case. Bottom, left, the two movements; sound-movement at left, pilot-pin movement at right; bottom, right, the camera and its owner, Harry Wayne McMahan.



Youth Has Its Fling -- At Scenario Production

By Wilton Scott

AMATEUR movie-making is generally admitted to be "a young man's game"—but down in Texas there's a group of movie-making amateurs for whose activities some new and super-youthful adjectives ought to be coined. Officially they call themselves Pixilated Pictures (not incorporated), and though they have no less than five successful scenario productions to their joint credit, not a single member of Pixilated's production staff is yet old enough to cast his (or her) first vote! None the less, for five years these youngsters have operated a thriving 16mm. production company, turning out productions which not only gave them recreation and a constructive outlet for their energies, but in every instance repaid their production-costs and usually a small profit besides.

It all began back in March, 1937, in the back-yard of Mrs. E. Humphrey Price, of San Antonio, when a group of children whose ages ranged between 10 and 13 years got together to stage a neighborhood show. Apparently the show was successful. At any rate, it so intrigued Mrs. Price that she brought out her 16mm. camera and filmed several of the "acts." When in due time the film came back from the processing station and was previewed to an enthusiastic young audience, she discovered she had a band of aspiring movie-makers on her hands.

Now most adults, faced with such a situation would — especially if they

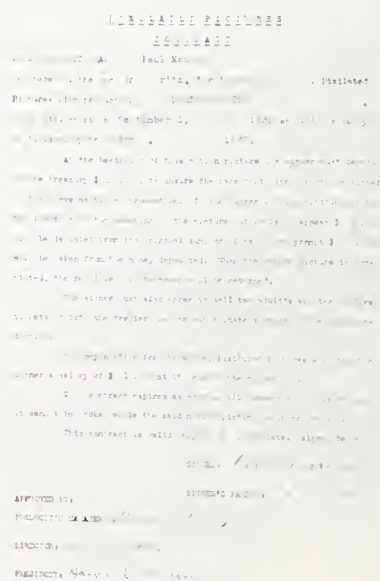
valued their cameras—turn a rather deaf ear to the idea. But not Mrs. Price! She encouraged the children to form a serious production group and actually try their hands at making a movie. She agreed to sponsor the budding firm, and to provide her camera. But the expenses of production, she wisely suggested, should be taken care of by organizing a

real company and raising the necessary money by the stock-selling route. In this way, the costs of production could be divided among the youngsters participating, incidentally giving them useful training in modern business principles.

With these necessary details out of the way, preparations were started for the first production. Glen Alvey, one of the boys who from the start has been a leader in Pixilated's activities, wrote the script, choosing that favorite among horror stories, "Dr. Jekyll and Mr. Hyde." To everyone's surprise, this first venture into production was a success—so much so that it not only repaid its cost, but enabled the company to declare a dividend of 100% on its stock, and issue more at double the original price.

Since then, these young folk have produced five complete features. Included among them are the original "Dr. Jekyll and Mr. Hyde," released in June, 1937; "It's Laughter We're After," in December of the same year; "Hollywood Ho!" in 1938; "Snazzy Sixteen," in 1939, and "Frankenstein," in 1940. In addition, the group has made local 16mm. newsreels to round out the supporting bills at the showings of their features, and at one time even ventured into the commercial field, filming a 100-foot advertising short for a local dancing teacher.

Most ambitious of Pixilated's productions has been "Frankenstein," the production-cost of which ran over \$100—but which, it may be added, still made money, so widespread a reputation have



A typical Pixilated Picture Contract. Note penalties for non-appearance and tardiness.

these young producers made in their city. Like most ambitious productions, Pixilated's "Frankenstein" brought with it plenty of technical problems to trouble its young producer-director, Glen Alvey. For example, there was the matter of the "Monster's" make-up. Even in Hollywood, where professional make-up experts have almost endless technical resources, a horror make-up of this type is an out-of-the-ordinary problem. Imagine it, then, looming before a group of high-school youngsters in Texas!

Naturally, the "Monster's" make-up had to be something similar to the one made famous by Boris Karloff, in the 35mm. professional version of the same story. But—how to do it? As the youthful actor who was to portray the "Monster" didn't particularly resemble Karloff, the foundation of the make-up had to be a mask. Yet it mustn't look too much like a mask; it must move naturally with the wearer's face and jaw-muscles, and let the expressions show through. They'd have given a lot for a supply of the celebrated plastic make-up material that professional Jack Dawn uses to create MGM's monsters, but of course none was available.

Several attempts were made at making the mask from papier-mache and paste, but these were failures—too stiff and "masky" looking. Finally Glen called into consultation Adrian Hines, a local taxidermist. With his help, a successful mask was finally made. A wax impression was made of the face of Henry Dielmann, Jr., who was to play the "Monster." From this, a plaster cast was made. Then upon this cast, the final mask was made of flexible rubber, modelling the outer surface into the desired contours with still photographs of Karloff's make-up for a guide. In this way, the inner surface was shaped to fit the face of the young actor who was to wear it, the outside molded into shape as the "Monster's" face, and there was enough flexibility so that the "Monster" could register a reasonable range of facial expressions. Stringy black goat-hair was used to make a wig. This mask make-up was, it must be admitted, a bit hot to wear—especially when making interior scenes under a battery of Photofloods—but it was convincing.

Other technical problems in the making of "Frankenstein" were solved by the youngsters in true Hollywood fashion. For example, there was the laboratory used by "Dr. Frankenstein" for his attempts at synthesizing life. Two complete sets were built for this. The first was built full-size, and located outdoors, where the photographic light was more plentiful—and free. In this set the living actors "did their stuff" for the closer shots.

But for the longer shots, especially the sequence in which the "Monster" was brought to life, a carefully-built miniature set was used. This contained accurate reproductions of the weird scientific and electrical equipment used by the doctor in his experiment, a minia-

On opposite page: left, 'Production still' from Pixilated's version of "Frankenstein", Henry Dielmann, Jr., as the Monster, Edith Jarrel as the frightened heroine. Center, scene in the laboratory of "Dr. Frankenstein" (Glen Alvey) as he fashions the monster. Right, miniature set of the laboratory; Producer-director Alvey straightens the lift, while cameraman Jack Locke lines up his camera.



Top, shooting a close-up of the Monster; upper middle, Pixilated Pictures troupe in production; lower middle, Producer-director Alvey and his assistant, Babe Price, editing "Frankenstein"; bottom, Pixilated's Art Department—Glen Alvey, Russell Bertsch and "Tish" Walker, who design and build sets, and posters. All photos from Three Lions.

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Transitions and Tempo

By CLAUDE W. A. CADARETTE,

Founder, L. A. 8mm. Club

AS soon as movie scenes start trying to tell a connected story-idea to audiences, we come up against the problem of making transitions to bridge the mental and pictorial gaps occasioned by changes of place, time or action. These transitions should be so smooth as to fit imperceptibly into the flow of the pictured action. At the same time, each transition should be directly proportionate in tempo and abruptness to the change of thought it bridges; that is, quick, abrupt transitions should be used between scenes closely related in time, place or action, while slower and smoother transitions should be used between scenes between which there is a greater change of thought.

Fortunately, the professional movie-makers have developed a regular language of transitions, and since many of these are mechanically adaptable to 16mm. and 8mm. filming, we amateurs can—if we will—take advantage of them and add this professionalizing touch to our own films.

Basically there are four—maybe five—fundamental types of movie transitions. First and simplest is the direct cut, made by simply splicing one scene after another. It is the quickest, and also the most abrupt. Next come the fade-out and fade-in, in which the picture gradually fades out to complete blackness, or the reverse, as the case may be. This is slower and much more positive. It can be made in several ways: by slowly closing (or opening, for a fade-in) the lens or shutter as the scene is shot; by using a graduated “fading-glass” filter or, if the fade is to be made after the film is processed, by applying “Foto-fade.” Third comes the lap-dissolve, in which one scene blends smoothly into the next. This is made by shooting a fade-out, then rewinding the film to

the point where the fade-out was started, and starting the next scene at this point by making a fade-in. Thus the two fades are superimposed, so that as the first scene starts to fade out, the second one simultaneously starts to fade in. This is the smoothest of all transitions.

Fourth comes the “wipe,” much used in professional films, in which one scene apparently seems to push the other off the screen. These are made professionally with an optical printer, and are rather too complicated for most amateur use, though they can be done if one has a camera equipped with a wind-back and one of the “wipe” gadgets commercially available.

Finally there is the “whirl,” which isn’t used very often, but which can, as Robert Teorey showed in his prize-winning 8mm. film, “The Golf Widow,” often be a good substitute for the “wipe.” On the screen the effect is that the whole world suddenly does a tailspin—and when it stops spinning, it is on a different scene. All that is necessary is to have a camera-mount which permits you to whirl the camera along the horizontal center-line of the lens. End one scene with a whirl like this, and begin the next with a similar one. Then splice the two together at the top of each: the scene will usually be so blurred at this point that the cut won’t be detectable.

But the mere mechanical ability to make these transitional effects isn’t enough to assure good transitions in your picture. It is necessary to study the places and reasons where they’ll be used. The transitions have got to coordinate with the changes of place, time or action they bridge or they have failed their purpose, and merely disturb, instead of help, the rhythmic flow of the picture.

If, for instance, you were to splice scenes of Yosemite next to views of the Washington Monument, you’d have a transition—but the change of subject-matter and locale would be too abrupt. The result would be confusing. You should either use a more gradual transition, or add a few scenes which will

help you to provide a connecting link, and give a smoother result. When using a direct cut, the transitional subjects must be very closely related, because if the change of ideas is too abrupt, the minds of the viewers can not readjust themselves to the change in such short periods of time. Consequently, if you are using direct cuts to complete a change of thought in the minds of the audience, you are treading on thin ice unless you have carefully studied your scenes and edited the film extremely well.

The simplest way to transfer your audience from one time or place to another is by the use of the fade-out and fade-in. In this manner, you completely blank out the first subject matter and fade-in to new ideas, subjects and localities. Don’t, however, use this method except at the start and close of a complete sequence. Otherwise you will disconnect your subject-matter and break its continuity. A fade-out, like a period, instinctively informs the audience that the sequence has ended, and if the same subject-matter is again used after the fade-in, the continuity is muddled and broken.

It must be remembered that the speed of your fades will affect the tempo of the picture, and as a result, the transitions should have the same tempo. It would be incongruous to insert slow fades in a fast-moving picture, or quick, short ones in a slow-moving picture.

In many instances, when the sequences are closely related, and the subject-matter is separated only by the element of time, the fades are better replaced by lap-dissolves which give a smoother change of thought. As an example, to quickly portray the ageing of a person, a series of lap-dissolves can be used through which the person is seen constantly becoming older and grayer. With this type of subject, you can age the person any number of years with a minimum amount of film, yet if you were to attempt this by direct cutting of each scene, the impression would not be effective at all, as the change from youth to old age would be too great.

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Her first step! Scene from one of Dr. Berry's film-studies of his pupil's progress.



Teaching Cripples To Walk With 16MM. Movies

By LITA HIEBERT

THERE are few Academy Award motion pictures more dramatic or thrilling than the eleven miles of 16mm. film owned by the Milton Berry School for Paralysis in Encino, California. This internationally known school which teaches victims of paralysis to walk again, to talk, to feed and dress themselves, even to dance and drive cars possesses some of the most remarkable motion pictures ever filmed.

Through the system of photographing each student upon his enrollment, the school has, during the last dozen years permanently recorded on film the miraculous corrective feats they have performed with more than 2000 pupils.

Twelve years ago the Milton Berry school purchased an Eastman motion picture "Model K" camera with an f:3.5 lens and which handles 100-foot reels. Although the lens has since been changed to an f:1.9 to make possible the taking of pictures under more difficult lighting conditions, the camera is still in excellent condition and has been used regularly.

In 1936 the school purchased another Eastman motion picture camera—the new Model A Magazine-type. This camera has proved indispensable in making the rapid changes from black-and-white to Kodachrome which are so often necessary in this work.

An important feature of this Magazine camera is the slow-motion regulator, usually set at 64 frames per second which permits Mr. Berry and his staff of instructors to analyze in detail the "gait" pictures of the paralyzed students.

Inasmuch as no two cases of paralysis are identical, it follows that no two students at the school receive the same corrective assignments. These assignments

are based upon a thorough knowledge of the body muscles and their resulting body-actions in a normal and pathological condition. It is through the medium of slow-motion pictures that each movement of the paralyzed individual is scanned, analyzed and broken down as he moves across the screen.

The slightest incoordination of movement in the gait of these victims of paralysis is immediately detected on the film and the correct physical maneuvers assigned to adjust the pathological condition.

This study of motion and locomotion in paralyzed conditions was begun about 40 years ago by the late Dr. Milton H. Berry and is called "Patho-kinesiology." When broken down into syllables the word has the following connotation. "ology" means study of, "kinesis" or "kinetic" means movement, "Patho" means abnormal. The word in its entirety, therefore, means the study of movement in abnormal conditions. It is from the portion, "kinesis" that the word cinema, applied to motion pictures, likewise had its derivation.

Although infantile paralysis has been the most widely publicized type of paralysis, there are other types not so generally known. Of these, "Spastic" paralysis, caused by some injury at birth, is one of the most common. Regardless of the fact that victims of spastic paralysis are usually told they will never walk or become physically independent, the Milton Berry school is disproving this daily by teaching these individuals to stand and walk alone, to dress and feed themselves. It is the only place in the world where this remarkable work is being done.

Another classification of paralysis is

the "Broken back" division. This includes victims paralyzed as a result of industrial or motor car accidents. There are in this country thousands who wrongly believe they will have to be confined to a lifetime in bed or a wheelchair, thousands who should be told that they could learn to walk again.

Through the Milton Berry Foundation, which has been created by philanthropic individuals and organizations, many paralyzed individuals in need of financial and physical help will soon be able to receive the benefits of this famous corrective program. The "March of Dimes" is also making it possible for 75 victims of infantile paralysis to attend the Milton Berry school.

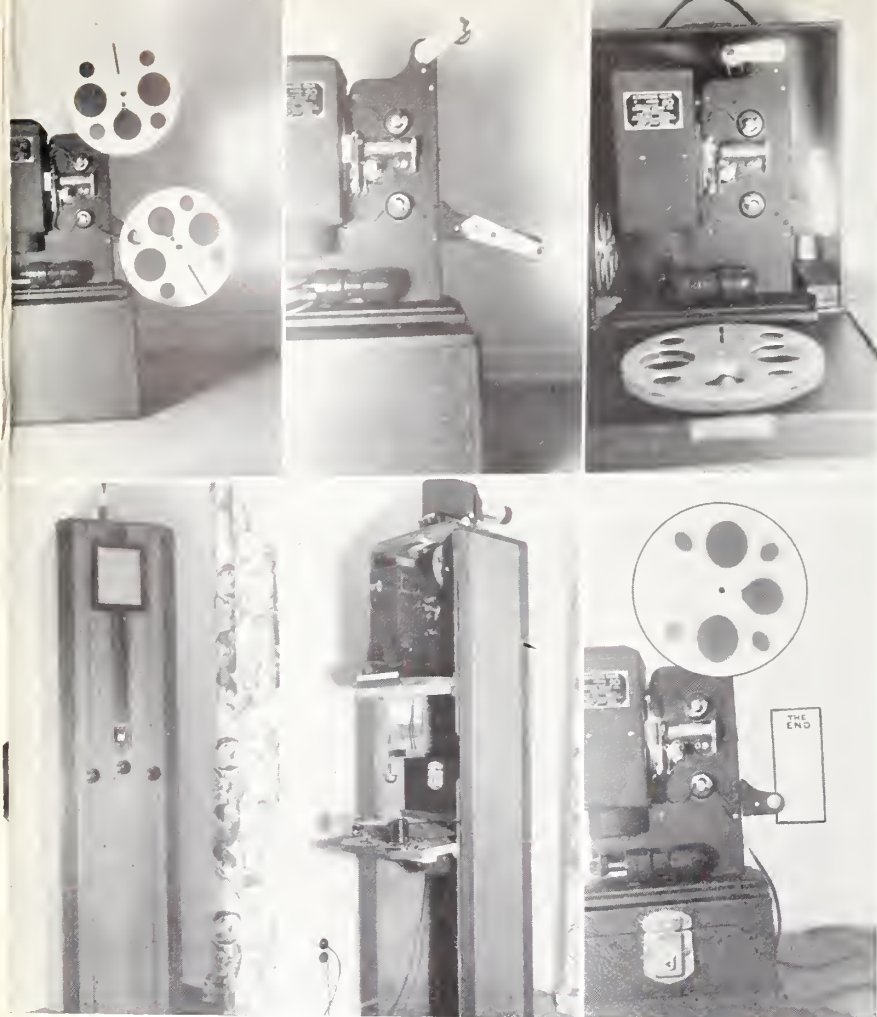
Motion pictures are being taken constantly of the students in action so that a regular check-up can be made on their progress. These complete records are carefully indexed and labeled, and through a card file which runs back over the last dozen years, the record of any student can be brought out at moment's notice.

Most outdoor pictures are made on the partly shaded, tree-bordered patio of the school where classes are conducted daily. In shooting these Kodachrome films, however, the matter of lighting usually presents a problem because the pupil, to exhibit his manner of walking to the best advantage, must emerge from the shadowy portion of the patio-ramp into the sunlight, walking a distance of about 100 feet. These shots are made with all shadowy parts taken with the Magazine Cine-Kodak at f:5.6. As the subject then emerges into the full sunlight, the diaphragm is stopped down to f:11.

Most indoor shots are also made with the magazine-type camera, using indoor Kodachrome again to obtain best results. These shots are made with 2500 watts of illumination and with the aperture opening set at f:2.8.

Because 98% of all the students who have attended the Berry school have been told by others that nothing much could be done toward rehabilitating them, it is impossible to overestimate the im-

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Gadgets That Smooth Home-Movie Projection

By ROBERT W. TEOREY,

L. A. 8mm. Club

POSSIBLY the greatest improvement to 8mm. home movie projectors in recent months has been the lengthening of reel arms to permit the use of 400-foot capacity reels. This, of course, doubles the projection time obtained with the standard reel and permits a lengthy show to be put on with less interruption.

Picture presentation is usually the culmination of a long period of cinematography, editing and titling and the manner in which your films show up in screening is the test to which your efforts must always be subjected. Therefore, a more continuous projection of your films will more readily hold the concentration of your audience and their enjoyment and interest will be far greater through lack of interruptions.

This can easily be appreciated when it is realized that half the stops for interchange of full reels are done away

with. Thus, the confusion attendant to snapping on lights, reel exchange, etc., is minimized. Few 8mm. films run longer than 200 feet. Thus by mounting the film on a single 400-ft. reel the story continues to be flashed on the screen where with the 200 foot reel an intermission would be necessary during which the thread of the picture might become hazy or lost. Even though the latter might not occur, any break in smooth projection is an unwelcome feature of the entertainment.

Although it is easy enough to purchase any number of the new 400-foot 8mm. reels on the market, it is not quite that easy to use them with most of the projectors now in use. The chief difficulty lies in the shortness of the reel arms on these older projectors. This can easily be rectified with most projectors employing a spring belt take-up

drive in much the manner I adapted my Model 50 Eastman.

At the dime store I bought a pair of 15-cent hinges of the type commonly used on garage doors. I measured the exact length of extensions required; then using a small hacksaw, I cut the ends from the longer elements of the hinges as follows: Supply-reel extension, 2 $\frac{3}{4}$ inches in length; take-up reel extension, 4 $\frac{3}{4}$ inches in length.

The lower extension must be longer in order to permit the large-size reel to drop below the line of the projection lens. This also places the bottom edge of the reel below the level of the projector base and during projection the machine must be placed either on the case (figure 1) or on the edge of a table or stand.

My next step was to remove the reel-spindles and bushings from the projector-arms for mounting on my new extensions. Studying the make-up of these elements, I decided the easiest and quickest way to do this was to punch them out. Using a pointed punch and a small hammer, I readily drove the spindle-shafts away from and through the pulley wheels after which it was a small matter to draw the shafts from the bushings. A large flat end punch was used to drive the bushings out of the arms. In both these operations, the projector was laid on its side and the edge of a small wood block was placed

under the arms near the shaft to gain solidity of these sections during the punching.

The next job was to secure the bushings to my new extensions. Screw holes already in the ends of each section were carefully enlarged to the correct diameter with a round file, and then the ends of the bushings were driven in place in each one. Tapping the slightly exposed end of the bushing projecting through the hole in the extension. I flattened the edges enough to fasten the two firmly together. Inserting the reel-spindles in the bushings, I next drove each of the pulley-wheels into place. A few taps with hammer and punch on the edges of the shaft exposed through the wheel-centers quickly made them a solid whole.

Assembly on the projector brought me
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THIS hobby of movie-making isn't by any means exclusively a man's sport. Just see how many wives and bachelor girls there are, both in and out of cine-clubs, who can and do go out with their 8mm. and 16mm. cameras and make movies just as good (sometimes better!) as those their husbands and boy-friends crow about so loudly! Of course, none of us objects to the pride our male competitors take in their films. But I think we girls have a right to complain about the way we're treated by the writers of home-movie scenarios! They all seem to be slanted to give Hubby and Junior the best breaks, with Mama or girl-friend taking what's left. So here's one written especially for my cinefilming sisters!



Photographed on Agfa film.

Scenario for Feminine Filmers

By Phyllis J. Zeh

L. A. 8mm. Club

MAIN TITLE:

WIFELY FOOTSTEPS THROUGH
THE DAY

CREDIT TITLE:

The Cast:

Wifie
Helen, her friend
Tommy, Junior
Tom, Senior.

Scene 1: FADE IN. Medium long-shot from front porch. The postman enters and deposits a letter in the mail-box.
Scene 2: Close-up as a pair of feminine hands remove letters from mail-box.
Scene 3: Close-up on living-room table as same feminine hands deposit several letters on the table. On top of the pile is one addressed to Hubby, with prominent return-card "Blankville Cinema Club." FADE OUT.
Scene 4: FADE IN. Close-up of clock, with hands pointing to six.
Scene 5: Close-up of man's hands inserting key in door.
Scene 6: Close follow-shot of man's feet walking across room, stopping by table.
Scene 7: Close-up of man's hands picking up letters. A moment later the envelope from the cine-club, ripped open, flutters down.
Scene 7-a: Insert: notice of meeting from your Club. FADE OUT.
Scene 8: FADE IN. Close-up of calendar, showing date same as that given

in meeting-notice. Pan over to clock, hands pointing to 7:45.

Scene 9: Close-up of Hubby, talking angrily.

TITLE:

"YOU KNOW IT'S MEETING NIGHT. WHY IN XX@*ZZ!! ARE YOU ALWAYS TOO TIRED TO GO? YOU DON'T HAVE TO WORK—YOU ONLY SIT AROUND THE HOUSE ALL DAY!"

Scene 9a: Same as Scene 9. Hubby finishes speaking and glares.

Scene 10: Close shot of wife, obviously tired out, and wondering why he doesn't see why.

Scene 11: (This can be double-exposed montage over Scene 10, if you wish) Quick flashes from several odd angles of a sink full of dishes, a washing-machine, brooms, dust-cloths, kitchen-stove, Tommy, Jr., reaching up for a sandwich, etc.

Scene 12: Long-shot. Hubby gets up, walks to door (camera following), puts on his hat, and walks out, slamming the door.

Scene 13: Medium close shot of Wifie, from the rear. In the background (if possible) show the door, just slamming. She droops forward over the table, puts her head in her hands, and cries.

Scene 14: Close-up of feminine hand ringing doorbell. She rings many times, then finally tries knob; door is unlocked; she opens it.

Scene 15: Same as Scene 13. Wifie is still crying. Helen enters, stands there and then rushes forward to her friend. They embrace. WIPE TO—

Scene 16: Close-up of Wifie, talking excitedly.

Scene 17: Close-up of Helen, looking sympathetic. Then she gets an idea and starts to speak.

TITLE:

"WHY DON'T YOU SHOW HIM
WHAT YOU DO?"

Scene 18: Close-up of Wifie, puzzled. She obviously asks "How?"

Scene 19: Medium-shot of Helen. She looks left and points, clearly saying "There!"

Scene 20, Close shot of Hubby's cine outfit standing in the corner.

Scene 21: Close-up of Wifie. The idea begins to dawn on her, and she smiles in anticipation. FADE OUT.

TITLE:

(FADE IN)

AND TIME MARCHED ON—TO THE
HUM OF A CAMERA.

(FADE OUT)

Scene 22: FADE IN. Angle-shot of Helen focusing camera. (Make short!)

Scene 23: Angle-shot of wifie's hands at dishpan. (Short flash.)

Scene 24: Angle-shot of Helen peering through finder. (Short flash.)

Scene 25: Close follow-shot of Wifie's feet walking across kitchen floor.

Scene 26: Close shot of kettle, steaming. (Short flash.)

Scene 27: Close shot of Wifie's head, with steam coming up over it. (Short flash.)

Scene 28: Long-shot of Helen setting tripod in position.

Scene 29: Medium-shot of Wifie cutting out cookies, Tommy, Jr., helping her.

Scene 30: Close shot of broom sweeping, followed by close shots of Wifie's hands wielding it.

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FOR pictures that will make any home movie audience sit up and take notice, I can heartily recommend movies made from the air. Especially Kodachrome films, to which color often gives an almost three-dimensional effect. I've noticed that of all the films I've shown at home, the ones my friends seem to get the greatest enjoyment out of have been those in which I've combined my two hobbies of flying and shooting 8mm. And since I know that an increasing number of 16mm. and 8mm. movie-makers have opportunities to fly, either in their own planes or those of friends, or on trips in regularly scheduled airliners, here are a few of the things I've learned about shooting personal movies in the air.

It's entirely different from making studio air-scenes. Working professionally, you have your own camera-plane and pilot, and you can simply set your camera on its rigidly-anchored mount or tripod, and give all your attention to what you see in the finder.

But doing it as we cinefilming private pilots do, believe me—it's different! Sometimes I've been lucky enough to have a friend along with me who could take over the operation of plane or camera at the crucial moment (Mrs. Fulton resolutely refuses to have anything to do with either!) but all too often I'm the only person in the ship who can either fly a plane or run a movie camera. In that case, there's only one thing to do. First, make very sure your ship has plenty of good, empty air between it and either the ground or the ship you're photographing. Jockey it into position—and then let it fly itself while you and the camera cooperate on getting the scene. Modern planes can almost fly themselves—for a few moments, anyway!

Using my eight on the ground, I've often been rather disappointed that it made such short scenes. After all, five feet isn't much film when the baby is

Up In the Air with 8mm.

By JOHN P. FULTON, A.S.C.

just beginning to do something cute. But up in the air it's different—and how! During the twenty-five seconds it takes to run that five feet of film through an 8mm. camera, your plane can do the darnedest things, especially if the air is rough. Sometimes I've looked up from the finder to discover that one wing or the other was disgracefully low, or that the ship was swinging itself in a graceful ten-mile-wide circle, or sometimes even climbing or diving embarrassingly! Yes, it's a case of grab your shot and then grab the wheel—quick—in the air!

Holding the camera is something it's easy to guess wrong on when you're shooting your first scene in the air. Most first-flight shooters, I've noticed, have a tendency to try to rest the camera, or their elbows, on some part of the ship, such as the window-sill or the arm of your seat. Don't do it: you will just pick up any vibration that may be coming from the engine, and pass it right on to the camera to make your pictures blurry. The best way, I've found, is to sit freely and comfortably in the seat, and hold the camera in your hands, clear of any contact with the ship. Your body acts as a shock-absorber, damping out most of the vibration. You can get things still smoother if you shoot at camera-speeds slightly higher than normal—24 or 32 frames per second, if your camera permits; even faster in bumpy air.

In my own Stinson cabin monoplane, when I want to shoot to one side or the other, I can simply roll the window down, just as you would in an auto. This is a good idea whenever possible, for no matter how clean and clear a glass window is, the result can't be as perfect shooting through it as without the extra glass to soften your definition.

However, in an airliner you can't roll down the windows, and it's really surprising what good results can be obtained from an airliner's cabin-window. Be careful, though, that you don't include in your field the irritating little metal studs you see in the windows of some airliners; the result will look as though a nice blob of dirt had come to rest in the middle of your camera's or projector's gate!

Shooting from a private plane, you can often get very interesting shots shooting straight ahead. Here again you can't roll down the windshield, and you just have to make the best of shooting through the glass. If your windshield is clean, and your engine properly maintained, so it doesn't throw oil, you can get very good shots this way. This sort of angle, showing a bit of the nose of your ship, and sometimes an occasional glint as the light catches the blurry disc of the propeller, often gives you more of an impression of actual flying as it gives your picture both foreground and distance.

The most important single matter in getting good movies from the air is correct exposure. I use a Weston exposure-meter all the time, and frankly, I'd hate to try to make air-movies—especially in Kodachrome—without it.

But even with this accurate photo-electric guide, there are tricks to the trade. For shots in which the camera is more or less horizontal, including a lot of sky and only a relatively minor portion of ground, with or without another ship in the shot, you can use your meter quite normally. But when you start shooting down toward the ground—look out! First of all, in making a shot like this, even if the camera is to include some sky and clouds, be careful that the meter doesn't get misled by the vastly higher relative reflective value of this part of the shot. And even in shots that don't include sky, I've noticed there's an almost invariable tendency to underexpose, even if you use a meter.

To offset this, I've developed a special technique of using my meter. It's unorthodox, and I've no doubt the meter-engineers will tell me plenty of reasons why it is theoretically most unsound. But it works. If you'll study the calculator-dial of your Weston meter, you will notice that in addition to the "Normal" arrow which you usually set opposite the light-value to get your exposure-reading, there are four other calibrations. To the left of that "Normal" point, you'll see two others, one indicating half-normal exposure, the other—marked "U"—indicating the point at which the darkest objects will be underexposed with most black-and-white film. To the right of the "Normal" calibration, there are also two extras: one marked 2x, indicating double normal exposure, and the other, far to the right and marked "O," indicating the extreme overexposure region.

When I'm shooting at the ground from a plane, I take my reading using this "O" marking. Thus if I get a light-value reading of 500, which would normally call for an exposure of f:11 with regular "daylight" Kodachrome, taking the reading with this "O" calibration would give me an exposure of f:4.5. This, I have found from many hundred feet of Kodachrome exposed in the air, will be about correct. The first time or two you shoot this way, you'll probably doubt your meter, and the method as well. But you'll find that your camera and your eye don't see things the same way; your eye can't compensate for the narrower angle of the camera's lens, or the generally darker and less reflective coloration of the ground.

Focusing is a simple matter in most air shots. Most 8mm. cameras, like my own Bell & Howell, have fixed-focus lenses. But even with eights and sixteens equipped with focusing lenses, you won't have many worries. Just set the focus at infinity for most shots, and you're all set to go.

Filtering is another place where you can go haywire in aerial filming, particularly in color. The Kodak people



To avoid underexposure in shots like this, take your reading on the "O" calibration on your meter. On opposite page: a telephoto lens is best for making close shots of other planes in the air.

make a very nice "Haze Filter" for Kodachrome, and if you believe the instruction-books, you'd think an air shot was just the place to use it. I've tried it, and my personal advice is to leave your haze filter at home on the ground—or, better yet, take it up with you and carefully drop it from the plane's window! For one thing, that filter always tends to distort the color-rendering of your distance; if you feel you *have* to cut through the haze, a pola-screen is much better.

Moreover, to me, if the haze is there visually, it's part of the picture, and you want to bring it to the screen. I've frequently made aerial shots that were extremely effective *because* of the haze. Eliminate the haze, and you'd lose your picture! I remember one of them, for instance. I was flying back down to Hollywood from the Pacific northwest. The start from Seattle was delayed by exceptionally bad visibility and haze; but as soon as the field authorities permitted, I hopped in the ship and took off. Climbing away from the airport, I soon found myself flying above a blanket of haze, cut off from the whole world.

But before long, as I headed south, Mr. Rainier came into view, raising its 14,408-foot cone majestically above the misty haze. I whipped out the Filmo and made a shot of it in Kodachrome. On the screen, it is one of the most effective shots anyone could ask, for you see the mountain rising from a vague, misty foundation, aglow with the pearly light of the early-morning sun, and get precisely the same impression we got in the plane, actually seeing it. If you filtered out the haze, you'd kill the pictorial and dramatic value of that shot! And it's the same way with many another Kodachrome air shot. No, I say, in color, leave the haze in!

If you're shooting black-and-white, though, it's a different story. There, without the magic of color to aid you, there's often an advantage in cutting through the haze, and in using a filter to accentuate in your black-and-white picture the color-contrasts the eye sees. Generally, when shooting black-and-white in the air, I simply put an Aero 2 filter on my lens, and forget it until I land. Occasionally, when I want to accentuate contrasts, darken the sky, or penetrate a really strong haze, a red filter may be preferable. But for all-around aerial work, the Aero 2 filter is supreme; that's what it was originally designed for.

Incidentally, working this way in black-and-white, it is a good idea to set your meter so it will make allowance for your filter-factor automatically. Simply divide your normal film-speed rating by the filter-factor—and re-set the meter's speed-setting according to the result. From this new setting, the meter will automatically give you the correct reading for the filtered exposure.

The choice of lenses is another simple matter in the air. Most of the time, I simply use the regular 13½mm. lens on my eight, and that's that. It is by far the best for most normal air-shots; shooting downward or at distant scenery, you won't get much benefit out of a telephoto, and the narrower angle of the tele-lens will magnify every bit of movement in the camera, and (especially with the small finder-mattes on so many substandard cameras) will make it doubly a problem to keep centered on your shot.

On the other hand, if you are shooting another plane in the air, a telephoto lens is a real advantage. For one thing, it brings you closer to the other plane than could be possible any

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DOUBLE TROUBLE

Scenario picture; 400 feet, 8mm. black-and-white.

Filmed by H. E. Ward, Jr.

Speaking generally, very little criticism can be offered regarding this film, for it is excellent. Among these few, however, may be mentioned a definite need of more close-ups, especially where you are cutting in spoken titles. In a number of instances there is a bit of confusion as to which character is speaking the title. This can easily be eliminated by handling the cutting as was done in the silent days of professional movies. Begin with a close shot of the person speaking the title. Then cut in the title. After that, cut back to the shot of the person speaking, after which you can go to any other angles your action may require. Bear in mind here, too, that you can often save footage this way, for it is not necessary to show a person speaking *all* the words of his title; show him beginning to speak, and then after the title, finishing speaking. The audience will subconsciously feel that during the time they required to read the title, he was naturally speaking, and will so bridge over the actual gap in action mentally.

There is another fault in cutting this picture. That is that as you changed your camera-angles the action did not always match up well. For instance, in the last sequence where "Ann" is telling "Jack" what she thought of him, the cutting was such that she apparently spoke her lines twice in the different angles used. A closer match of the action in scenes like this would make them flow together more smoothly and convincingly, and save footage, too. Closer matching of action is just as necessary in going from one angle to another in the longer shots, too. You could also save some footage by tightening up exits and entrances, so you don't show too much of a blank scene before a character enters or after he leaves. The best way to cut such action is to cut an exit just as the character begins to step out of the frame, then cutting his entrance into the next scene with his figure well into the frame.

Another thing that can be suggested, too, is that you would have gotten a much better impression had you kept "Bruce," in his pursuit of "Jack" and "Ann" from the airport, always moving across the screen in the *same* direction—say from right to left, or always into the camera. This would give a continuity of motion which would give a much clearer impression that the poor fellow was trying to go from one place to another.

To a certain extent you have overdone the use of "Fadette" fades. As a

general rule you will find that fades are best used only at the beginning and end of a sequence, and never within the sequence.

"Double Trouble" would also have benefited from the use of soft reflectors, and your players would have looked better had you exposed more for the shadow-sides of their faces. This can be done, especially in the closer shots where it is most necessary, by taking your reading with the meter held rather close to the actor's face, and well over toward the shadow-side.

On the whole, however, you are to be congratulated for having handled a none too easy scenario very well, indeed, and upon the fact that wherever you could—as in the roof-garden sequence—you have secured pictorially effective compositions.

BOOTS AND SADDLE

Vacation Film; 800 feet 16mm. Kodachrome.

Filmed by Miss Agnes Marx.

This film came to us with a note in which its maker distinctly apologized for her film, explaining that she had bought her camera very shortly before leaving for her vacation and this was, apparently, her first film. After screening the film several times, it seems to us she has nothing to apologize for, but instead a great deal of which to be proud. Recording a summer vacation spent on a Montana dude ranch, this film as completely captures the spirit of a vacation as any we've seen in a long time. Moreover, composition and exposure are uncommonly good; the latter, especially, is almost of professional evenness, despite the photographic hazard of cowboy hats, deep porches, and the like.

There are, indeed, very few criticisms which can be offered. First among these is a lack of close-ups. We would suggest that the next time the lady makes a vacation film, she personalize it more. In "Boots and Saddle," she carries herself through the vacation excellently: you see her leaving the city, and at frequent intervals throughout the picture, participating in the activities of dude ranching, and finally—in a very clever ending filmed in her eastern home—apparently dreaming of the pleasant Western vacation days. But we see her companions on the vacation only in long-shots. Of course, most of them are but chance-met fellow vacationers: but they were interesting to her, so they should be made more interesting, better-defined personalities to the audience. Close-ups will do it. This is especially noticeable as regards the proprietors of the ranch. She specifically mentions them in titles, but we never see them; we are never shown and told

Part of THE AMERICAN CINEMATOGRAPHER'S service to its readers is individualized review and criticism of amateur movies by members of the A.S.C. In making these analyses, the reviewers make full allowance for the differences between professional and amateur cinematography in equipment and facilities, but recognize, too, that there cannot really be any double standard of judging cinematography: good photography is good photography, regardless of whether it is on 35mm., 16mm. or 8mm. film. It is their aim always to be constructive in their comments, especially to point out to the home moviemaker how he may utilize in his own filming the many little tricks of camerawork, lighting, editing, titling and direction which professionals have learned through long years of moviemaking, to the end that his films may be better, smoother and more graphic.

In response to popular demand, we have decided to publish some of these criticisms, especially in instances where they suggest things which will be of benefit not only to the maker of the film in question, but to other home filmmakers as well. We invite all readers to send in their films for review.

THE EDITOR.

who they are.

The titles are excellently done in Kodachrome, with a strikingly appropriate western-motif background. However, we might suggest a slightly simpler style of lettering, which would be more easily read, or as an alternative, giving a bit longer footage to each title, to give the audience more time to read them.

Photographically, as has been mentioned, the film is excellent, especially as regards composition and exposure. However, there are several sequences which do not match the rest of the picture at all well in either color-balance, steadiness or definition. Since the film was made with a Magazine Cine-Kodak, and these sequences are of approximately 50 feet each, it seems probable each represents a single magazine-load. As regards the faulty color-balance, we can urge Miss Marx—or anyone going on a long vacation and planning to expose a lot of film—to follow professional practice. Always order your film ahead of time and make sure you get a supply *all* of which is of the same emulsion-

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AMONG THE MOVIE CLUBS

CALLING CLUB SECRETARIES!

This department of THE AMERICAN CINEMATOGRAPHER is your department. We feel that there is a great deal to be gained all around by making these reports of club activities available to other clubs and to independent cine-filmmers all over the country. To that end, we ask all you club secretaries to consider yourselves special reporters for THE AMERICAN CINEMATOGRAPHER with the assignment to "cover" the activities and meetings of your club. Send us those reports as quickly as possible after the event has happened—and make your report accurate and prompt. Wherever possible, we'd appreciate getting reports of meetings that have actually happened, rather than of those that are scheduled to happen in the future, so that none of us will be embarrassed by reading that something is going to happen at such-and-such a meeting, only to find later that some switch in schedule made the actual meeting very different. And please—remember that printers and editors wait for no man—so get your reports in for the next issue by not later than the 20th of the month.

The Editor.

So. Cal. Clubs Hear Clarke

Members of all the amateur cine clubs of Southern California were guests of the Los Angeles 8mm. Club at the Club's March meeting, held in the auditorium of the Southern California Edison Co., with a capacity attendance of over 400 enthusiastic 16mm. and 8mm. filmmakers, many of whom had travelled fifty miles or more to attend. A delegation of 40 members of the Long Beach Cinema Club attended en masse, arriving in specially-chartered busses; the Los Angeles Cinema Club had abandoned its regular mid-month Technical Meeting to take part in this joint meeting, and delegations from the three other clubs in Los Angeles proper, as well as clubs in Pasadena, Alhambra, Santa Monica, Santa Ana and other localities were present.

Chairman for the evening was Vice-President Foster K. Sampson of the Los Angeles 8mm. Club, who had arranged an unusually instructive programme dealing with movie-making under artificial lighting. The first speaker was W. H. Robinson, Jr., of the General Electric Company, who described and demonstrated his firm's Photoflood lamps, and how they may best be used. He was followed by Irving Andrews, of the East-



Los Angeles 8mm. Club plays host to members of the Amateur Cine Clubs of Southern California. Left, Charles G. Clarke, A.S.C., during his demonstration of lighting; right, part of the audience of 400. Photos by W. H. Robinson, Jr.

man Kodak Stores, who discussed films products.

The next speaker was A. Bernard Shore, of the Max Factor Make-Up Studio, who demonstrated the application of make-up, using Miss Edith Williamson as a most charming model.

The concluding speaker was Charles G. Clarke, A.S.C., a member of the Board of Governors of the American Society of Cinematographers and an outstanding Director of Photography with the Twentieth Century-Fox Studio. He gave a most interesting informal discussion of lighting, speaking from his experience not only as a studio cinematographer but as a 16mm. home movie maker. He followed this with a demonstration of lighting, using Victor floodlights provided by Winter, Inc., and Dinkie Inkies and Baby Keg spotlights provided by Bardwell-McAlister. Miss Williams was again the model. Clarke's demonstration concluded with the projection of a 50-foot reel of 8mm. Kodachrome showing similar lightings on the same stage and with the same model and lighting equipment. At the close of this he spent a considerable time answering questions from the audience.

The meeting concluded with a showing of the 16mm. sound Kodachrome film "Sailplane," made by James H. Love and John W. Love (see AMERICAN CINEMATOGRAPHER for February, Ed.).

BETTY BARNEY, Secretary.

Sioux City Sees A.S.C. Prize Films

The March meeting of the Amateur Cinema Club of Sioux City, Iowa, featured screenings of two Prize films from THE AMERICAN CINEMATOGRAPHER'S International Amateur Movie Contest. The films shown were "Prize Winner," made in 1937 by J. Kinney Moore, and "Early Summer," made in 1932 by Tatsuichi Okamoto, of Japan. They were most enthusiastically received.

EDWARD H. SIBLEY, M.D.,
Program Chairman.

New Club In Paterson, N. J.

A group of amateur movie enthusiasts from Paterson (N.J.) and vicinity have banded together to form a club known as the Paterson Cinema Club, Inc. The purpose of the club is to foster amateur movies and to bring together the individuals interested for an exchange of ideas and suggestions of how they can improve their technique. About four meetings have been held thus far. The Secretary of the new club is Irving Diamond, 130 Walnut St., Paterson, N.J., who states he would be glad to receive inquiries from any interested amateurs in his locality, and particularly "we would more than welcome correspondence from any other organizations interested in helping a new gang get going."

Philadelphia Elects

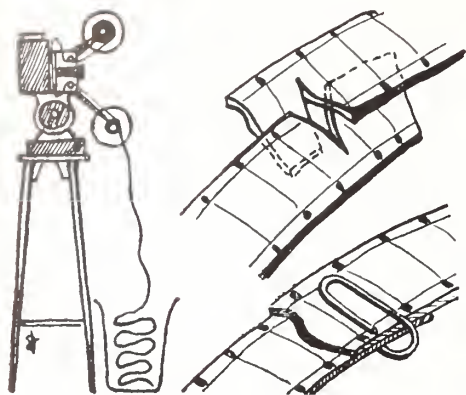
As the Philadelphia Cinema Club enters its sixth year of activity, it starts out under a new set of officers, elected at the Club's March meeting. The new administration includes B. N. Levene, President; George A. Pittman, Vice-President; William A. Brink, Secretary, and Robert R. Henderson, Treasurer.

Through the courtesy of the Eastman Kodak Co., a new form of ballot for use in judging films was explained, and an opportunity presented for its immediate use. The Club, departing from its former practice, has decided to include all films shown by its members at any meeting during the year in the Club's Annual Contest. A special committee headed by the Chairman of the Technical Committee will be charged with maintaining percentage records on every film shown. These will then be used in the final judging for determination of the Annual Prize Winners.

The film-feature of the March meeting was a 1000-foot 16mm. Kodachrome titled "Sagebrush and Saddles," made by Boyd Bernard and completely synchronized with sound. The majority of the film-rating sheets turned in gave

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THE IDEA EXCHANGE



Emergency Splices

It's plenty embarrassing when your film breaks during projection. If you stop to fix things, there's an irritating interruption to your show; if you don't, the film runs down onto the floor and at least gets dirty, and sometimes stepped on. Here are some methods I've used in these emergencies.

The simplest thing is to have a good, clean wastebasket handy (preferably lined with soft, lint-free cloth!) so in case of a break you can simply slip it under the projector and let the film feed down into it. They used to do that in professional theatres, by the way, in the early days before they put take-ups on projectors.

Another good safeguard is to have two or three small paper-clips (smaller than the width of your film) handy. Use a clip to temporarily join the broken film-ends together. Often, if you catch the break promptly, you can clip the ends this way with little or no interruption, even in the dark.

A third method is to slit the broken film-ends as shown in the sketch, joining them as shown.

A fourth method is to have on hand several strips of Scotch tape narrower than the film and about half an inch or an inch long. Placed lengthwise over the break in the film, this makes a fine emergency splice, and one that will go through the projector, too.

GEORGE GREY.

Color Titles on Snow

Looking around for a title-idea to fit a Kodachrome snow picture I'd made, I hit on this idea which worked out well. I took a sheet of heavy cardboard and made a stencil from it, cutting out the letters I wanted for my title. Then I placed this cardboard stencil on a flat area of snow.

Next, I filled a "Flit-gun" with water-color paint of the desired color (I used orange) and sprayed the stencil with it. The stencil kept the paint from reach-

THE IDEA EXCHANGE is just what the name implies—the place where 16mm. and 8mm. cinefilmmers can swap moviemaking ideas with the other fellow. The little improvised tricks you used to solve one of your cinemaking problems may be just the answer to something that's perplexing a fellow filmer—and one of his ideas may solve a problem for you.

To help out this exchange, THE AMERICAN CINEMATOGRAPHER invites you to send in descriptions of gadgets, tricks, shortcuts and methods you have used in any phase of home movie work—shooting, editing, titling, projecting, processing, and the like. If possible, send along a photograph or sketch to help make your description more clear to the other fellow. For every idea published in THE IDEA EXCHANGE, we'll give you two projection-reels and cans. Really unusual ideas will receive higher awards. When sending in your idea, let us know whether you shoot 8mm. or 16mm. to facilitate sending you the right equipment.

ing the snow except where the letters had been cut out. There, it went through and colored the snow to form colored letters against a white background.

When I carefully lifted the stencil from the snow, I had my title all ready to shoot: a flat expanse of white snow with colored letters.

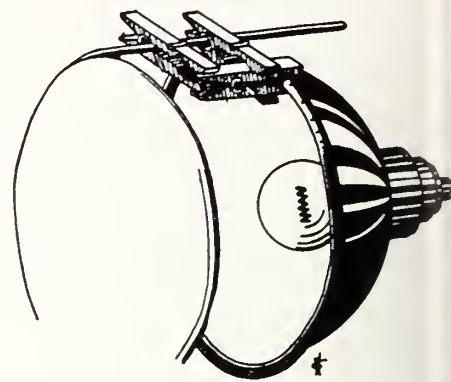
This idea lends itself to all sorts of modifications. You can pan up or to one side, going directly from the title to your action, or from action to title. Or you can "fade out" on your title by shooting the desired footage of the word, and then sprinkling snow on it until the letters are concealed. If you use 16mm., as I do, you can get the opposite effect by shooting this way with the camera upside-down. When the film is processed, turn it end for end in the reel, and you'll get the effect that the snow flutters away and leaves the lettering exposed.

MARTIN MILLER.

Diffuser For Lamps

If you'll study professional movies, you will see that most shots are made with the lamps illuminating the actors softened down with diffusers. Unluckily for us amateurs, there haven't been many diffusers made to use with our Photoflood lamps. But anyone can build himself a set very easily.

Take a length of galvanized-iron wire and from one end make a hoop at least



as big as the front of your lamp's reflector; a little bigger is even better. Then bend the surplus wire straight back, as shown in the sketch.

To provide the diffusion, fasten onto the hoop whatever diffusing medium you wish—tracing-cloth is good, so are white silk, ground cellophane, and the like. Each has a different character of diffusion, so it's a good idea to make up several for each lamp.

You fit the diffuser to the lamp as shown in the sketch, with three spring-type clothespins. One is attached to the top of the lamp's reflector, and the others, at right angles to it, grip both it and the extended straight wire from the hoop. Be sure and mount your diffuser an inch or more in front of the reflector, so there will be room for ventilation. Otherwise the heat of the lamp is likely to char the diffusing-screen.

For shooting tricky light-effects in Kodachrome, make up similar gadgets using colored cellophane instead of the usual white diffusing medium.

SOL. J. COHEN.

Title For Sport Films

Cinebugs who make movies of such sports as tennis, baseball or golf can make themselves some eye-catching main and end titles by using this trick I recently employed. Take as many balls as there are letters in the words you want in your title. Letter each ball with one of these letters.

Then, for the simplest effect, just set the balls on a flat surface, arranging them so the lettered balls spell out the words, and shoot your title. It's best to light the balls with a single lamp, from one side. This makes them look rounder.

If you shoot 16mm., you can have the balls "animate" in to form the words themselves. Just shoot with the camera upside-down, and when you've shot enough, jiggle the table or card the balls are on—very gently, mind!—and the balls will slowly roll away. When the film is reversed end-for-end, this gives a shot in which the balls roll

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...THE SHOWCASE...



8mm. Continuous Projection

A continuous-run film magazine having a capacity of 1000 feet of film, which may be attached to any 8mm. projector, is offered by the National Service Company of Hollywood. Trade-named the "Readyview Projecto," it is stated to be the first continuous-projection attachment commercially made for 8mm.

The device consists of a simple base upon which any 8mm. projector may be placed. Extending upward from this base is a supporting column at the top of which is mounted the film-magazine. This magazine contains 1000 feet of 8mm. film, spliced to form an endless loop. Within the magazine, the roll of film lies on its side, supported by radially-positioned knife-edge bearings which, it is stated, permit the roll to revolve with the minimum of friction and at the same time eliminate the complications of roller-supports. The film is fed to the projector from the outer edge of the roll, and fed in again at the center, passing at these points over relieved, plastic rollers. It is stated that at no point in the device is anything in contact with the emulsion-surface of the film.

The endless loop of film extending from the magazine is threaded through the projector in the usual manner, looping over a special bakelite flange fitted over the take-up spindle. The manufacturers state that the tension of the film at the projector's feed sprocket is no greater than when an ordinary feed reel is used, and that film has been continuously projected for weeks at a time with no appreciable injury.

Magazines are quickly interchangeable, being removed from the supporting column by the removal of a single screw. Using the magazine's full 1000-foot capacity permits an hour and a quarter's continuous projection, at the end of which the original starting-point has

again returned to the projector, ready to be shown again. The device, which sells for \$39.50, is stated to be particularly adaptable for such business uses as displays in stores and offices, convention-booths or exhibits, sales or educational meetings, and the like, while the use of 8mm. film instead of 16mm. should reduce costs of film and equipment notably, and open an entire new field for commercial substandard films. The manufacturers further hold that the device has some applications in home filming, as well. A 16mm. model is reported also under test and nearing manufacture.



G-E Speed Midget

Development of a new and revolutionary photoflash lamp producing a flash so brief as to freeze moderate motion and so fast as to greatly simplify synchronization was announced by General Electric's lamp department at Nela Park. It is called the G-E MAZDA Speed Midget Photoflash Lamp SM, or for short: the "SM".

Unlike other types of photoflash lamps, the G-E SM lamp employs no aluminum leaf, free wire, or shredded foil within its bulb. Instead, a small amount of chemical paste applied to the ends of the lead-in wires (in an atmosphere of oxygen) produces the SM's rapid flash.

Although the SM has the same shape

and size as that of the popular G-E mighty midget No. 5 flash lamp, it comes to peak of flash in 1/200th of a second, lives its entire life in only 1/100th of a second.

The new source produces only about one-fourth as much light as does the G-E No. 5 midget bulb. Nevertheless, the SM's flash has been found to be ample when used with the improved films now available.



Ektra Accessories

Six accessory items for the new 35mm. Kodak Ektra—including a special flash synchronizer, ground-glass focusing back, view finders for high, low, and right-angle work, a close-work range-and-view finder, and a special tripod clearance head—are announced by the Eastman Kodak Company, Rochester.

The accessory Close Range and View Finder is intended for use with the 50mm. Kodak Ektar f:19 lens at distances from 3½ feet down to 1½ feet; and with the addition of the Kodak Portra 3+ supplementary lens, down to 10½ inches. Its features include a single eyepiece for range and view finder, automatic parallax correction, a vernier scale for distances shorter than 1½ feet, and an internal mask which is slid into place when the Kodak Portra 3+ lens is used. The price is \$40. This accessory can also be obtained, on special order, with a specially-calibrated focusing dial for use with the 50mm. Kodak Ektar f:3.5 lens.

The High-Low Angle Finder permits the Kodak Ektra to be used conveniently from waist-level when used on a tripod or other firm support, as well as overhead—thus greatly extending the

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16mm. BUSINESS MOVIES

IN ALL THE WORLD

1400 feet, Kodachrome, Sound.
Presented by Great Northern Railway.
Produced and Photographed by William S. Yale.

Recording: direct 16mm. by Sound Masters, N. Y.

Processing: Kodachrome dupe by Precision Laboratory, N. Y.

"In All The World" is in some ways rather more routinely commercial than some of Yale's previous films for the Great Northern, but it is none the less as unusually attractive presentation of the vacation attractions of Glacier National Park.

The film opens with an optically-printed main title, embodying a series of intricate wipes which are not one whit behind 35mm. practice. This introduction certainly shows to what an extent 16mm. in its professional application has group up. The picture maintains this impression from start to finish.

This is particularly noticeable as regards the recording, which is without doubt the finest direct 16mm. recording we have yet heard, and greatly to the credit of the Berndt-Maurer recording and re-recording equipment upon which it was done. Narration, musical background and a variety of sound-effects have been blended as skillfully as any 35mm. sound department could wish.

Photographically, the film is well up to Yale's usual standard, and places him definitely among the nation's best commercial Kodachrome filmers. His exposure-technique is virtually flawless, under the many and varied conditions applying to making a picture in this mountainous region where altitude and atmospheric conditions can be so deceptive. Yale makes excellent use of reflectors in his more intimate shots, using them to good effect to lighten up the dark faces of the Indians, and to relieve the shadows under the broad-brimmed western hats worn by many of the people shown.

The interior scenes are surprisingly good, when it is considered that they had to be made on the actual locations, rather than in a studio, and in more or less isolated resort-hotels in which the maximum permissible electrical load was presumably none too high for color-lighting standards. There are a few dolly-shots in these interior scenes, executed with commendable skill and an understanding of the use of such camera-movement which could well be studied by many Hollywood directors.

In the same connection may be mentioned Yale's wisely sparing use of camera-movement and panning on his exteriors, even though in a region which tempts any cinematographer to pan in order to capture as much as possible of the scenic attraction he is filming. Yale's pans are few and far between

—and when he pans, it means something, both in photography and story-interest.

His cutting is worth careful study. He uses short scenes and frequent cuts, keeping his total running-time to an almost over-brief minimum, and leaving the audience perpetually feeling that although it has seen everything clearly, it would still like a little more. In many instances, too, the film is cut to coordinate with the phrasing and tempo of the narration. This is very capably done, both in the editing, and in writing and speaking the narrative.

His treatment of the subject-matter is excellent. It is no small task to effectively cover the wide range of attractions he had to, and to do it within a strictly limited running-time. He does it excellently, giving almost every member of the audience something to draw his interest to Glacier Park, regardless of what his personal interests may be.

Yale manages to keep several characters running all through his picture. However, it may be suggested that he does not take full advantage of these characters; to this reviewer, at least, it would appear that for a film intended for general showing, there would be a great deal of advantage in personalizing these characters—making the audience feel they were Mr. and Mrs. Average man and their daughter actually visiting Glacier Park and exploring its attractions.

AIRCRAFT DIE CASTING

Technical and Educational; 1350 feet
Kodachrome, sound (including direct sync. recording.)

Presented by Harvill Aircraft Die Casting Co.

Produced by Hubbard Hunt; Sterling Barnett, Production Manager, Pacific Industrial Films.

Recording: Direct 16mm. by Pacific Industrial Films, Hollywood (Berndt-Maurer System.)

Processing: Kodachrome dupe by Pacific Laboratories, Hollywood.

This film was made to tell the story of die casting in the aircraft industry to aircraft producers, engineering organizations and students. As such, it necessarily combines a certain amount of entertainment-appeal with educational and technical exposition.

Beginning with an introductory sequence (sync. recording) of a radio commentator broadcasting a talk on die casting, it swings into its institutional promotion quickly after hinting at the wide range of die-cast products used in ordinary home life. From this point on, it concentrates on a semi-technical exposition of the methods of die-casting, and the advantages and uses of this method in making aircraft parts.

There are naturally a considerable

Sixteen millimeter commercial filming has long since outgrown the experimental stage and become a legitimate and highly-specialized field of professional cinematography. The technicians in this field stand definitely apart both from the 16mm. amateur and from their 35mm. professional fellows. But it has been our experience that these men who are so earnestly striving to build a new field of cinematography welcome comments of a professional and technical nature upon their work, and how it can be improved.

To meet this need, this new department of THE AMERICAN CINEMATOGRAPHER is being inaugurated. We see many 16mm. commercial films in the course of our work, and have almost invariably been asked for frank criticism. We propose to give that criticism written expression here. We will welcome opportunities to review and analyze any such films made by our readers.

THE EDITOR.

number of scenes made actually in the plant involved, showing, with the aid of some animations, how die castings are made, tracing the progress of the operation from the drawing-board of the engineer through the various steps of die-making, casting, finishing, inspection and delivery. The treatment, both directional and photographic is excellent, giving a graphic idea of a comparatively little-known process.

In its presentation, the film makes use of some of the first transparency process-work we have seen in 16mm. This was done only on a small scale in this picture, but with today's increasingly powerful 16mm. projectors, it seems probable that the process will soon be capable of utilization to an increasing extent.

The photographic quality of the film is better than adequate, especially when the limitations of subject-matter are considered, and the restrictions of photographing in plants like these which are working to capacity on defense orders. It may be mentioned that this last was responsible for one of the film's faults—the use of scenes made some time ago, using old-type Kodachrome, in various aircraft plants where photography is today impossible due to military restrictions.

The sound is good, though there are some bad jumps in sound-levels as the track cuts from direct sync recording to conventional offstage narration.

Cutting is good, though it seems likely that the introductory sequence might conceivably be shortened somewhat. The color-print is quite good, though due to the mixture of old and recent Kodachrome mentioned, the color-balance is not uniform, and in some scenes, the contrast is rather high.

Again and Again!

THE WINNERS

For Best Photography

by popular vote of *The Critics*

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A.S.C.

Director of Photography

JOE LA SHELLE

Operative Cameraman

PAUL LOCKWOOD

Assistant Cameraman

NEGATIVE PROCESSING

and Daily Prints

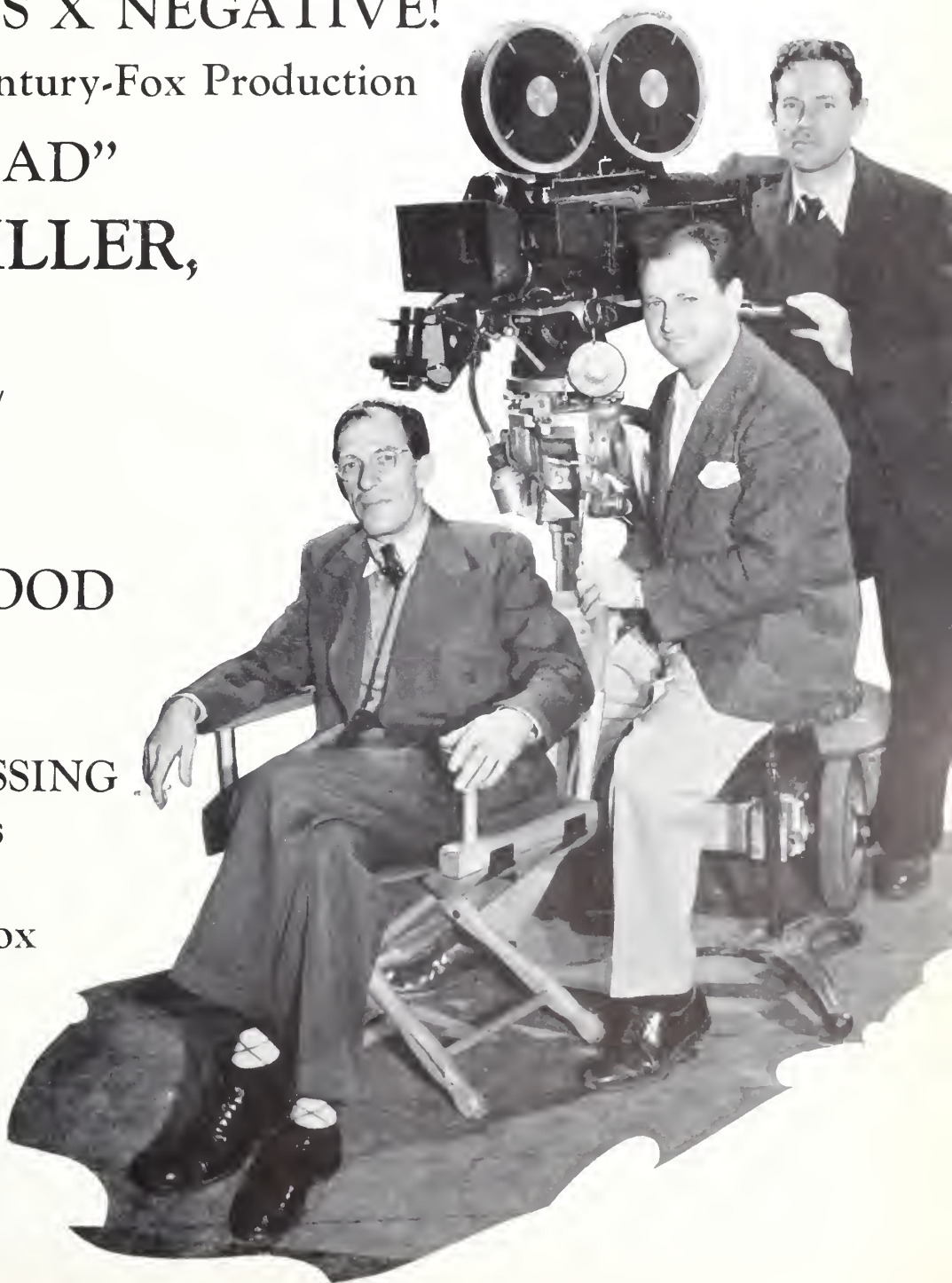
By

Twentieth Century-Fox

West Coast

LABORATORIES

Brulatour Service



Freedom of the Seas

(Continued from Page 165)

ground must somehow be treated to give an effective, natural result—and this with the backing less than twenty feet away from the principal characters who leaned against the ship's rail!

Necessity, always the mother of invention, became the parent of another offspring—the Water Ripple and Wave Illusion Machine.

A series of these machines were set up on the Marine stage behind a muslin backdrop sixty feet high and six hundred feet in length—a tremendous piece of fabric. The upper, or sky portion, is dyed gray muslin—the clouds being effected by using bleaching fluid on the photographed surface, and opaquing the reverse side around the clouds, softly, for day or night light-effects.

The lower fifteen and a half feet of the drop is reserved for the sea, and this portion is not touched with paint or dye of any sort. The sea effects appearing there are entirely the result of illumination provided behind the Ripple machines, which, projected through the opaque wave patterns printed on three vertically actuated transparent screens of cellulose acetate, provide an amazing illusion of an unlimited expanse of sparkling, undulating, salty sea. The distances a cinematographer can pan with his camera are limited only by the length of the stage and the number of machines. The machines carry their own light platforms, adjustable to any height, so that the horizon may be set as required.

Electrically motivated, the series of machines work as a unit. The screen wave-patterns are designed to join each other perfectly, the screens moving silently up and down as result of the action of a system of shafts and cams.

The design of the wave-patterns was an exacting task, as each curve of the pattern had to be designed by hand. At the top of the screens, the pattern is a thin, long, stretched-out, wavy line, overlapped by each successive line on the way down, so that little light is allowed to come through near the top of the screen.

As the waves go down the screen, the pattern becomes a more vigorous, active, undulating line, thicker in width. The successive patterns overlap in such a fashion that more light is allowed to come through as the bottom of the screen is reached.

These screens are fabricated from stock-sized sheets, the patterns being printed on them by means of a rubber stencil, cut direct from the original design. They measure approximately sixteen feet by sixteen feet and are all of exactly the same design, secured to the machine by means of metal battens top and bottom.

The machine-frames are all of stock-sized iron pipe, mounted on heavy steel casters for portability and ease of setting up.

The "break" of the machine, which ad-

joins the muslin backing at the horizon line, is provided with a nigger to keep the light off the sky-areas above, thus eliminating objectionable shadows.

Etched cellulose acetate patches are provided to be attached to the screens to kill hot spots caused by direct rays of the sun-arcs utilized for illumination.

Each machine occupies an area fifteen feet long by ten feet deep, including space for the sun arcs. By shifting these lights about many interesting effects can be obtained upon the "water."

Thus has freedom of the seas for director and cinematographer come to Hollywood sound stages. END

Distant Locations

(Continued from Page 162)

minutes or 3.1 times longer. So I think it well to copy down this table.

Temp.	Time of Dev.	Factor
50	28 min.	3.1
55	17	1.9
60	11.8	1.3
65	9.0	1.0
70	6.8	0.75
75	5.4	0.60
80	4.0	0.45
85	2.8	0.30

I have noticed many place ice directly in the developer. This will help you show your director a good test and what he *wanted* to see: but it will only mislead you as to the final developing back at the laboratory where your negative will—on the strength of your tests—be given normal development. For the ice will not only cool your developer—it will at the same time melt and dilute the solution so the result of shooting according to such a test would be over-exposed negative, as you would be exposing for a weak solution, while the lab would actually use normal time and strength in their development.

I have found two excellent ways. Where we have all the ice we want and can carry glass bottles without being broken, I favor the Nepera Solution, which can be diluted to any strength of developer you wish. For example, not to hold your director and company up very long, the developer can be mixed in a strong solution and will thus develop the tests a shorter time. If for instance the studio laboratory is developing their negative on machines at nine minutes, then we would mix one part of my Nepera solution to seven parts water, and develop only four minutes and then fix. This would give us the same full negative as that back at the laboratory, yet without wasting so much time. Not only did we have the advantage of knowing all conditions of the negative at the time exposed, but we had a few frames when dry to make enlargements with my Leica enlarger which I always carry. These enlargements are valuable in matching other scenes, to check on clothes and props, and for trick work to be made later on.

When we have had to travel under

bad conditions, where bottles would not last or added too much weight, or were liable to freeze, I have carried a good supply of "Tabloid" Rytol tablets. These little pills can always be mixed up very easily and used even if you have to get inside an oven or under a truck and cover yourself up while doing it.

There are also times when a cameraman has but ten small fingers and can carry only so much. Then it means one thing; that some things will have to be condensed down to lighter loads. I remember one time while flying and picturing the arctic in bipack color with Donald B. MacMillan, the noted explorer. We had been up north and were on our way south again and were in Hamilton Inlet, Labrador. The Lockheed taxied a good long mile from the *Bowdoin*, the mother ship, but with no success. We could not lift off the water.

Going back to the *Bowdoin* the pilot shook his head. He knew we were going on a very dangerous trip over the snow covered mountains with pontoons on the plane and with but a single motor. Should we have to sit down somewhere in a deep canyon or on a snow peak, we would have to have our rations, tents, blankets, etc., so we could try to get back afoot.

Something had to be done. Gasoline we had to have, cameras and films also, for pictures were the purpose of the hazardous trip. We looked at each other. All looked at my extra camera equipment. To compromise I took only two silver drinking cups, my Rytol tablets, a sockful of hypo crystals and a loading bag. I changed the negative in the double magazines under several rolls of blankets and got a couple good tests into the bargain regardless of the sudden bumps and bounding around. During that long flight under such terrible flying weather of snow and hail, MacMillan and I made the first motion pictures ever made of the Grand Falls of Labrador. And I might add before I close, by using the hand tests and test box the entire 40,000 feet of bipack exposed was printed on a normal light.

Photography of the Month

(Continued from Page 169)

to finish the production is filled with aerial scenes. Many of them are strikingly spectacular from both the viewpoint of pictorial effectiveness and of spectacular action. The shots of the four-motored "flying fortress" bombers flying in formation in the mock raid on Los Angeles, skirting cloud-banks and plunging through them, are outstanding. So, too, are the shots of the training-planes at Randolph Field, both in straight flying and stunting against typical Dyer cumulus-cloud backgrounds. The many aerial follow-shots of airplanes taking off and landing, both singly and in squadrons, are another outstanding feature of the picture, while Dyer's work in the hedge-hopping sequence plays a big part in creating the

MORE THAN HALFWAY

DEFT treatment and dramatic lighting contribute much to modern screen productions. Unusual effects receive competent support from the wide latitude and exact uniformity of Eastman negative films. They always can be depended upon to meet director and cameraman more than halfway. Eastman Kodak Company, Rochester, N. Y.

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SUPER-XX

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BACKGROUND-X

for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS

thrill this sequence provides. The contribution he makes in process background-plates, while it will probably go unnoticed, is also vital.

The film owes an incredible part of its success, both technically and dramatically, to the superb process-work of Farciot Edouart, A.S.C., and his staff. That the production is among the best air films ever made stands much to the credit of Edouart and his associates, for in no previous air-film have the resources of modern transparency process-work been so extensively brought into play. And a very great part of Edouart's work is based upon the tremendous possibilities stemming from his development of the ultra-powered triple-head process projector. Without this, it would have been impossible to get the many long-shots in which the players are seen taking off, flying and stunting in angles which show virtually the entire plane, and convincingly make the plane not merely fly level, but climb, dive and roll—all in angles that give the effect that the camera was flying right alongside, about as near as the plane's own wing-tips. To this writer's mind, the amazing scope and flexibility of the transparency-work is perhaps the outstanding single feature of the film. The picture could never have been made without Edouart's superlative contribution.

Gordon Jennings, A.S.C., is broadly credited with "Special Photographic Effects," and he, too, has done a masterful job. "Special Photographic Effects" covers a wide range of achievements in this case: among them are miniatures, matte-shots, and optically-printed composites which very skillfully blend straightforward photography with what this reviewer at least guesses to be animation. Again it can be said that the picture could never have been made without the parts that Jennings and his staff contributed.

Inevitably, the film has some faults. Veronica Lake's make-up, both in her earlier scenes and in her closing scenes, has already been mentioned among them. It seems also to this writer that while in the main Film Editor Hugh Bennett has done a fine job of welding into a coherent whole all the incredibly diversified elements of dramatic action, aerial spectacle, thrills and process-work, he has at several times over-emphasized the spectacular atmospheric shots of vast squadrons of planes in the air at the expense of good dramatic balance. Frequently, especially as he necessarily bridges quickly over the progress of the flying cadets' training, it struck this reviewer that intimate, individual scenes of but one or two planes in the air, presumably flown by one of the central trio, would have been much more effective from both the dramatic and the flying viewpoints. It would seem that many of these training sequences could have been given more personalized treatment to great advantage.

In conclusion, endless praise must be given the many uncredited Army pilots

whose spectacular flying gave the ground and flying cameras their spectacular material. Again, orchids to Tover, Dyer, Edouart, Jennings and their associates, and to Paramount for being so generous in recognizing the value of their work.

THE SEA WOLF

Warner Bros.-First National Picture.

Director of Photography: Sol Polito, A.S.C.

Special Photographic Effects: Byron Haskin, A.S.C., and Hans F. Koenekamp, A.S.C.

Viewing this picturization of Jack London's rugged sea story—the fourth, I believe, since 1913—it is hard to believe that it was all done on a studio sound-stage. And yet, thanks to the ingenuity of the technical staff—especially Art Director Anton Grot, Director of Photography Sol Polito, A.S.C., and special-effects specialists Byron Haskin, A.S.C., and Hans Koenekamp, A.S.C.—it was not only done entirely without leaving the studio, but done fully as convincingly as though the company had chartered a ship and spent months at sea. As a matter of fact, it was in some ways more convincing, for working in the stage Polito could secure angles and lightings which would have been difficult, if not downright impossible, working outdoors on an actual ship.

The greater part of the picture's footage involves effect-lightings, which Polito has handled excellently. Ordinarily, a picture of this nature is a temptation to the cinematographer to over-play his hand on dramatic effect-lightings, just as it is to the players to "chew scenery." But Polito has kept the situation well in hand. His lightings lend precisely the right note of realism and at the same time heighten the dramatic and atmospheric value of the production: yet they don't call attention to themselves or suggest a cinematographer on an esthetic spree. Few if any of his scenes are intrinsically spectacular: but without the vivid atmosphere his camera creates, two-thirds of the production's dramatic strength would be lost.

The photographic treatment of the film shows an interesting and subtle transition, which keeps perfect pace with the emotional accents of the film. The opening sequence—played in a San Francisco fog—begins on a note of visual softness suggesting mystery. This treatment continues through the first sequences aboard the ship, changing gradually as the harsh character of the ship and its crew are brought out to a visually harder note perfectly in key with the characterizations. It is very well done, indeed.

The special-effects work of Haskin and Koenekamp—especially the miniatures—is excellent. The miniature-shots of the ship looming mysteriously up through the fog, and then sliding furtively away in the mist like the ghost after which it is named, are pictorially excellent and of the very highest dramatic value. The miniature of the colli-

sion between the ferryboat and the freighter is another noteworthy achievement. As a master of fact, "The Sea Wolf's" miniatures are some of the finest we've seen in a long time, and Haskin and Koenekamp deserve endless credit for their perfection.

Great praise is also due Film-Editor George Amy for his more than ordinarily capable job of cutting, which makes the most of every scene and sequence.

THAT UNCERTAIN FEELING

Lesser-Lubitsch Production; United Artists Release.

Director of Photography: George Barnes, A.S.C.

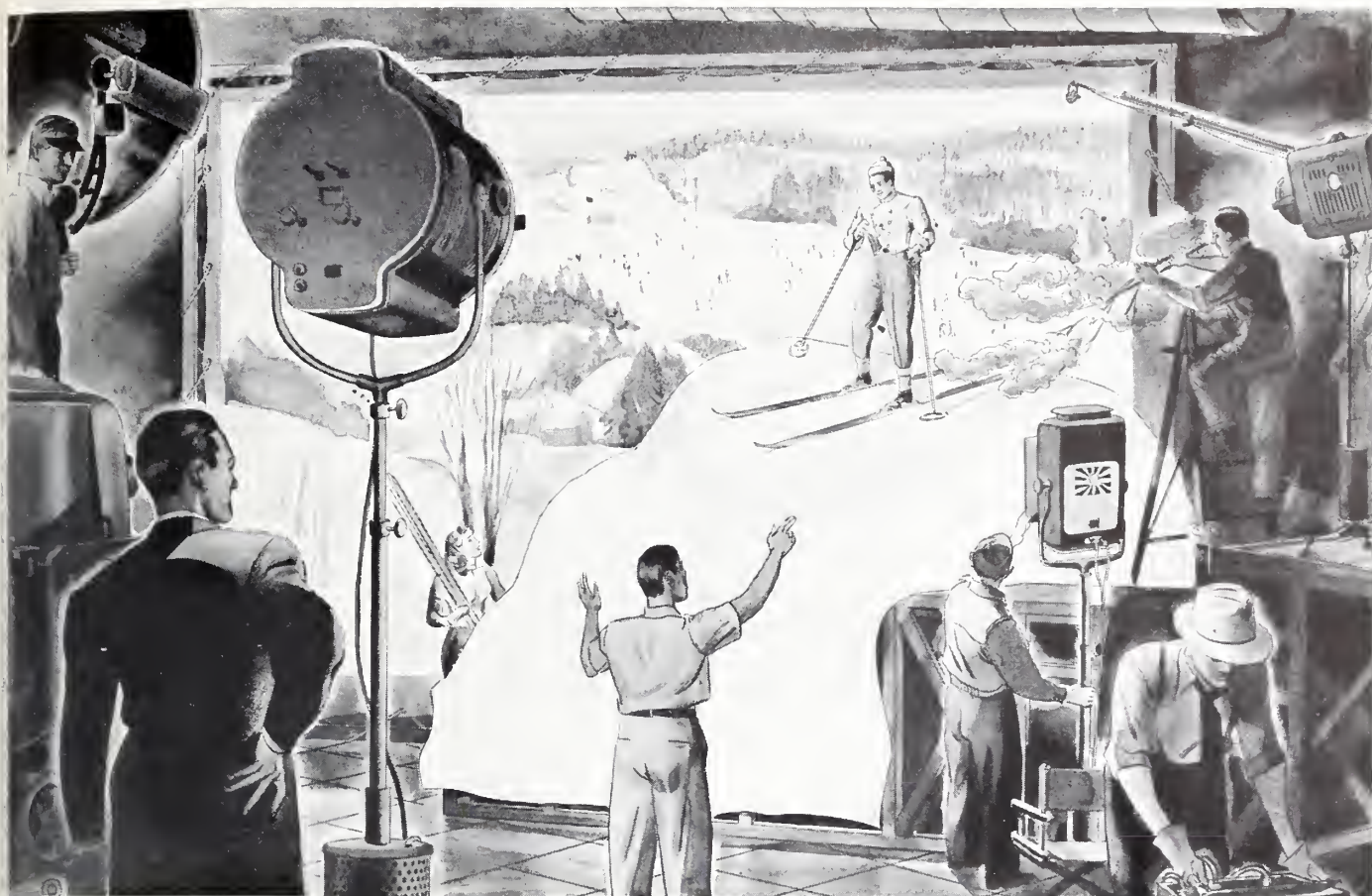
In this production Cinematographer Barnes acquires himself with considerably greater distinction than was possible in his other current release, "Meet John Doe." Undeniably, conditions were more favorable: he had a typical Lubitsch farce-comedy—a story which invited deft, decorative high-key photography; and he had as his fellow-worker a director with a keen appreciation of the value of outstanding camerawork. The result is a picture which is both excellent entertainment and a visual treat.

From start to finish, Barnes' set-lightings excel. The sets Art Director Alex Golitzen has provided are excellent, but the way Barnes lights them adds immeasurably to their value. This is particularly evident in one sequence of the film, close to the end, which appears to be a retake or added scene not photographed by Barnes. It occurs in the same sets used for much of the other action of the film—but it is not lighted with a comparable pictorial touch, and it appears like an entirely different set.

Much of this pictorial effectiveness is achieved through very deft use of cast shadow-patterns on the light-toned set-walls. Maybe it is just because this reviewer, to paraphrase a rather well-publicized line in Barnes' other recent release, is "a sucker for shadow-patterned set-lightings;" but it seemed each new scene offered more pictorial enjoyment than the one before.

On the other hand, it appeared to this writer that Barnes might at times have favored the players a little bit more; sometimes they seemed to be playing second fiddle (photographically) to set-lightings and composition. A trifle less diffusion might also have been more in keeping with the mood of the story. However, it is not easy to judge this accurately, for the picture was previewed in a theatre in which the projection-booth appears to be mounted at an unusually high angle, with the result that an uncommon amount of key-stone-distortion is present in the projected picture. This distortion certainly did not help the appearance of the players, neither, for that matter, did some of the hats and the coiffeur worn by Merle Oberon. We'd like to have seen the picture in a projection-room or theatre with a more straight throw.

In one or two scenes minor technical details intruded somewhat, too. For ex-



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ample, there is a long-shot of Merle Oberon in Melvyn Douglas' apartment when, as she approaches a white door, an unnaturally sharp shadow of her figure is cast on the door from an unnatural angle—upward, with the light a bit too obviously coming from a spotlight concealed on the floor behind a chair. There's an insert, too, in which the rain-effect on a hotel nameplate is badly handled.

But far offsetting these are the uncounted excellent shots in which Barnes' lighting enhances set and action. There's the shot of Douglas in bed in his hotel, with the shadow of the rain on the window falling on the white cover of his bedside breakfast-table, and the various interesting effect-lightings in the night-effect interiors, all of which deserve careful study. All told, Barnes has done an excellent piece of work, and one which shows his recent Academy Award was very far indeed from being any accident.

MEET JOHN DOE

Frank Capra Production; Warner Bros. Release.

Director of Photography: George Barnes, A.S.C.

Less than two weeks from the day that George Barnes stepped forward to receive his well-earned Academy Award, his most recent effort, "Meet John Doe," was previewed. And it shows clearly the imprint of Barnes' individuality. By no means offering its cinematographer the unusual opportunities of such a film as "Rebecca," it is in many respects the more notable job, for the technique that develops the famed "Capra touch" frequently tends to put the camera staff at a disadvantage—and "Meet John Doe" is perhaps the best-photographed of recent Capra productions.

The production begins rather conventionally. Then as reporter Barbara Stanwyck commences to type the "John Doe" letter which really sets the plot rolling, Capra suddenly seems to have been made conscious of the dramatic potentialities of the camera, and from that moment on, "John Doe" builds photographically, until at the end, the dramatic impact of the closing sequence atop the City Hall owes as much to its photographic treatment as to writing, direction or acting. That first sequence centering about the sob-sister's typewriter is a noteworthy example of the intelligent use of unusual camera-angles in their right place as a means of enhancing dramatic effect. Another memorable sequence is the night-effect scene under the bridge. The rain-sequence in the stadium is an example of phototechnical skill at work under difficult circumstances, and the closing sequence is a really notable example of intelligently-keyed use of dramatic lighting and composition.

Another noteworthy technical highlight of "Meet John Doe" is the brilliant montage-work of Slavko Vorkapich. The several excellent montages in the film are tributes to Vorkapich's skill. All too

often, montages are thrown bodily into a production to bridge continuity-gaps, and bear too little relation to the rest of the film as regards either photographic treatment or tempo, while their camera-angles are all too often jarring interruptions. Montage-makers should study Vorkapich's work in "John Doe," for his understanding of tempo, angles, cutting and general treatment are exemplary. Neither too long nor too short, and without the use of any unduly "arty" artifices, these montages tell their stories efficiently and with a smoothness too often missing from run-of-the-mill montage treatment.

Projection Gadgets

(Continued from Page 176)

nearly to completion of my task. The upper or supply-reel element already had a screw hole in the proper place, so a short bolt, a washer and a wing nut completed that section. The lower, or take-up extension required a hole to be drilled about a half inch from the end after which it was placed in position in a similar manner. (Figure 2).

Using my regular spring belt for the take-up, I found that too much tension existed so I added a short length from the rewind belt. After a little experimentation, I found that an inch and a half extra seemed to serve perfectly.* Certainly I am now short a spring belt for the rewind but the lengthened one easily serves the purpose and as this operation is only completed at the end of a completed show, there is no loss. At any rate, with my new set-up, I feel that the fifteen cents were well spent. The hinge sections have a durable finish and besides, with the reels in place they don't show anyway. So now, I am off to a new adventure in smooth home movie shows with only half the bother formerly. Fewer cans and reels are now required and there definitely is a saving in stowage space, and when the cost of one 400 foot reel against two 200 foot reels is considered, a saving in cash as well will be noted.

The old carrying-case didn't need any alteration at all. Merely loosening the wing nuts at the base of the extensions permitted them to be folded out of the way, and the projector slid just as easily into the case as always. (Figure 3). A small hook fastened to the case cover holds the new size take-up reel in place.

In continuation on the subject of smooth home movie projection, an old radio cabinet or hiboy can be utilized to serve several purposes. The one shown in Figure 4 appears to be a radio. Formerly it was; however, Figure 5 reveals the true character of this piece of furniture in its present form. Projection-booth de luxe with turntable and pick-up for musical accompaniment with ample space for storing of equipment are some of its features.

The speaker facing, (Fig. 4) slips out

* Many dealers now stock spring belts in bulk rolls, by means of which it is possible to make up belts of any desired length.—Ed.

revealing a small aperture for passage of the film image from the projector lens. The shelf holding the projector is fitted to slide in and out, and when in the latter position, the reels can easily be fitted on the spindles and the machine threaded without moving the projector from the fixed position determined by aligning strips about its base. After the projector has been prepared for projection, the shelf is pushed all the way in, neatly concealing the machine. Extraneous light from the lamp house is concealed by the surrounding cabinet and the operation of the projector isn't nearly so audible to the audience.

The turntable is also a sliding shelf. It, too is pushed in when not in use but slid out towards the rear when in operation. Twelve-inch discs can be used when in the playing position. When it is desired to play records I merely connect the pick-up to my radio by a long cable; place the radio near my screen and the evening's entertainment is lined up.

If it is desired to combine the movie show with still projection, the top of the cabinet can be utilized for the latter. (Fig. 5). Much of the interior space can be utilized for storing of films and equipment.

I have found with this particular arrangement of my projector that it is sufficiently elevated to project over the heads of a seated audience which is a happier arrangement than is generally found when using a table or stand for the purpose.

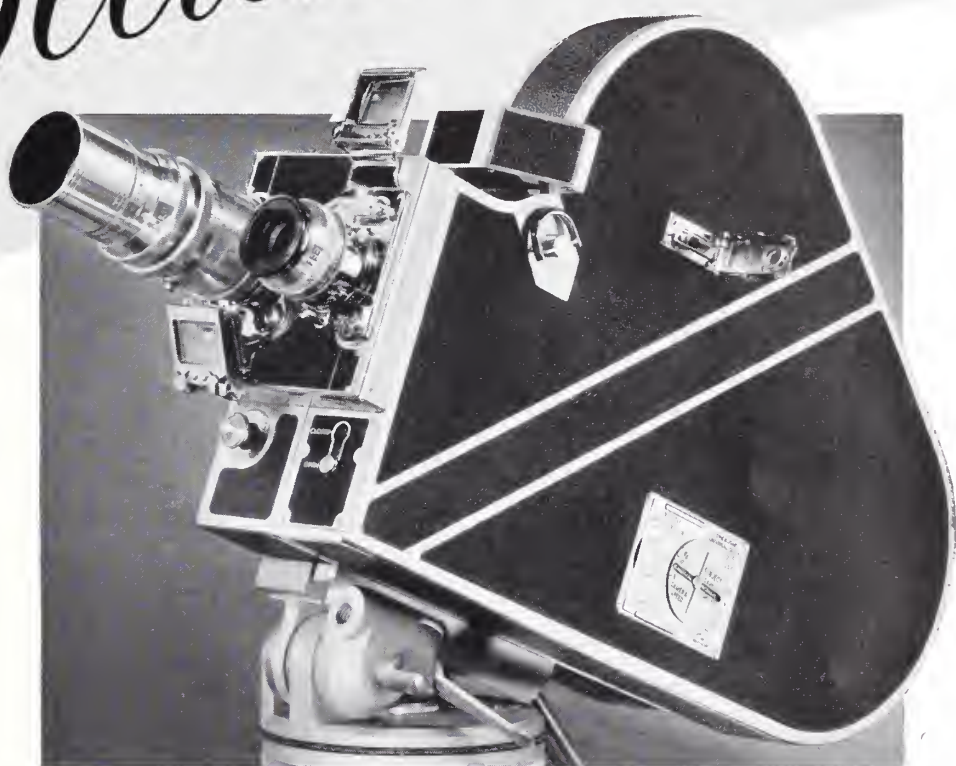
Figure 6 shows my projector converted for use as a movie editing machine. A cardboard box, a vanity mirror from Mrs. Teorey's purse (hope she doesn't read this!) and a small piece of frosted celluloid contributed to the simple make-up of the viewing device.

I fastened the mirror diagonally from the left bottom of the box to the right outer edge using Scotch tape for the purpose. The celluloid was then secured over the mirror to the outer edges of the box with more tape. Using a safety-razor blade, I cut a square opening in the left side of the box for entry of the image from my projector lens. By focusing on the celluloid as deflected by the mirror I had a perfectly clear image of my film as it was slowly projected. Titles viewed in this manner are correct from left to right for reading. For frame examination at a splice, often necessary in correlating action where one related shot moves into another from a different camera position, I found it expedient to remove the condenser lens and set the heat screen of the projector in an open position by means of a piece of wire.

Removal of the condenser lens prevents the film from being burned, so by stopping the projector, I could view individual frames for several minutes if necessary with no harm to them. Thus, the matter of timing the action of one scene to another became an easy matter.

In the cut it will be seen that the viewing box is attached to the lower reel arm of my altered projector. END

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EASTMAN KODAK COMPANY, ROCHESTER, N. Y.

Professional 16mm. Camera

(Continued from Page 170)

plate, terminating in a convenient knob by means of which the camera may be turned by hand while threading.

The film-magazines, as has been mentioned, are of the standard Bell & Howell double outside type. Magazines having a capacity of 200, 400 or more feet of film may be fitted, and the spindles provide for using either the regular laboratory-pack core or a special core. It is also possible to fit the regular 100- and 200-foot daylight-loading spools on the magazine spindles.

The film take-up differs slightly from convenient 35mm. practice in that special ratchet-type pulleys are used, and the take-up belt is threaded over the pulleys of both magazines at all times. A special adjustable belt-tensioner is used to compensate for the varying amounts of slack in the take-up belt when 200-foot and 400-foot magazines are used. An endless fabric belt is used.

McMahan and his Chief Cinematographer Jack McCoskey have added further professional refinements to the camera. They have mounted it on a standard 35mm. free-head tripod, adding to its 35mm.-type Bell & Howell dovetailed head a screw which meshes with the camera's tripod-bushing. They have also fitted a standard professional matte-box and sunshade, which works excellently with this camera.

In the original design of this camera, Bell & Howell made the mistake so many other camera-designers have, of attempting to utilize the magnifying focusing system as a finder. A 1-inch lens is mounted in the front-block of the camera in such a way that when the focusing rack-over is in photographing position, the focusing magnifier is behind this lens. In theory, this should give a most excellent finder: but in practice, it would be almost impossibly difficult to make accurate follow-shots using this finder's small eyepiece. Therefore McMahan and McCoskey have fitted a standard Mitchell finder to this bracket, giving a professionally large, upright finder-image which may be accurately followed, and corrected for parallax.

In developing this first experimental model, the designers also sought to adapt it for use as a single-system sound-and-picture camera. As will be seen from the illustration, a fitting is provided for a sound-recording drum, and two main film-moving sprockets are used, instead of the one large one familiar in most 35mm. professional cameras. An aperture at the rear of the housing was provided to accept a standard recording galvanometer, and of course the sprockets, pilot-pins, etc., were one-sided to permit the use of single-perforated 16mm. sound-film. This would appear to be an unnecessary refinement, for the writer has not as yet encountered a single commercial 16mm. technician who favors the use of single-system recording over the more controllable double-

film system generally used in 35mm. work. McMahan and McCoskey, at any rate, do not employ this system, and have accordingly had pilot-pins fitted on both sides of the gate, rather than above and below it on one side, as in the original design; they are also replacing the original one-sided sound-type sprockets with sprockets bearing teeth on both edges. This should assure greater steadiness and far better control of the film at all points. A standard professional anti-buckle throw-out switch is also being installed, even though in this camera buckling is hardly to be anticipated.

It would appear, too, that for completely professional use the eventual production models of this camera would do well to employ more thoroughly professional lens-mounts. The present experimental model is adapted to accept the usual "Type C" Bell & Howell lens-mounts employed on the 70D-A Filmo camera. This has two drawbacks: one of the principal difficulties so far encountered in enlarging 16mm. Kodachrome and black-and-white to 35mm. has been that 16mm. lenses are not mounted with as great precision in relation to the film gate as are professional 35mm. lenses. In addition, the conventional 16mm. lens-mounts are not easily adapted to the ring-gear arrangements necessary to permit following focus when the camera is used inside a blimp for direct sound recording. It would seem that a line of larger and more professional lens-mounts must necessarily follow as these cameras are finally put into production.

To date, however, it must be admitted that there has been no official assurance that these cameras *would* go into commercial production. The present example, Bell & Howell officials freely point out, is strictly an experimental model, further inferring that upon the present model's performance in practical tests in Hollywood studios, and in actual service in McMahan's commercial production of industrial films will rest the technical and commercial future of the design as an actual commercially-available product.

However, to this writer it seems certain that the camera, even as it stands today, most certainly ought to go into production, for it fills a need that has long been felt among commercial, industrial and scientific users of 16mm. for a professional 16mm. camera that is designed and built to truly professional standards of precision and operating convenience. It should also have an increasingly spectacular future in studio work, not only in making 16mm. tests for 35mm. production, but even in actually filming independent feature productions for joint 16mm. and 35mm. release. It is, at any rate, one of the first, if not actually the first 16mm. camera with which a 35mm.-trained studio camera crew could feel completely at home. As such, it represents the most sensational technical development of 1941.

END

Pixilated Pictures

(Continued from Page 173)

ture of the operating-table upon which lay the inanimate form of the "Monster," and even miniature figures of the "Doctor," the "Monster," and the "Doctor's" assistant, "Fritz," the hunchback. In this, the miniature operating-table is raised through the ceiling—an obvious impossibility in a full-scale set—as the electrical current animating the "Monster" is turned on. Alvey paid extremely precise attention to the design and construction of the full-scale and miniature sets for this scene, with the result that when the picture was finally cut, the two matched up surprisingly well.

Another miniature set was that used for the old mill used in the final scene in which the "Monster" was finally destroyed in a spectacular fire. Most of the production was filmed with Mrs. Price's Model 121 Filmo; but for filming these miniatures, a 70D-A Filmo was obtained by Cameraman Jack Locke, to make possible the use of the higher camera-speeds so necessary in filming miniatures.

Shooting completed, young Alvey, assisted by his secretary and script-clerk, Babe Price, and Cameraman Locke, edited the film, made the titles, and got it in shape for the gala Premiere. For this great event, Pixilated's Art Department next went into action. The staff here included young Alvey, Russell Bertsch and "Tish" Walker. Their varied duties included designing, building and painting sets, and making posters to advertise the showings of Pixilated's attractions. (Unlike Hollywood Art Directors, it may be mentioned, all the members of Pixilated's Art Department "double in brass" in other production assignments: Glen Alvey, for that matter, is almost as much of a multiple-threat filmster as Orson Welles, for he writes scripts, directed the picture, played the part of the scientist, "Henry von Frankenstein," built miniatures, directed sound, photography and cutting, and collaborated on poster-design. His associates in the Art Department both played parts in the production, "Tish" playing the part of the little peasant girl, and Russell, her father.

By the time "Frankenstein" was premiered, Pixilated and its productions had done a lot of climbing from their origin as a simple neighborhood "kid show." "Frankenstein's" premiere was held in no less a place than the ballroom of San Antonio's swank St. Anthony Hotel, before a capacity crowd very generously besprinkled with adults. And it was carried through in true Hollywood style, with celebrities, lights, microphoned speeches, and all the trimmings. As each of the Pixilated players arrived, they were conducted ceremoniously to the microphone and interviewed, after which they proceeded to their seats under the glare of a spotlight. The presentation of the picture was no less professional, and was accompanied by a carefully-recorded musical score, with sound-

effects, and the like, specially recorded to synchronize with the film.


Casting—so often a major headache in the making of amateur scenario films—is seldom a problem to the Pixilated picture-makers. As might be expected, appearing in a Pixilated production is quite a distinction, and is eagerly sought after by San Antonio's younger generation. There are fifty young actors on Pixilated's active list, while the company's casting bureau has a listing of more than 300 others who either have appeared in bits in previous films, or aspire to do so.


These level-headed Texas youngsters have also solved another problem which many other scenario-filming amateur groups have found troublesome—non-appearance of actors when shooting is scheduled. Each actor is signed to a formal, written contract as binding as any ever inked by a \$5,000-a-week Hollywood luminary—more so, perhaps, in some ways, for stiff penalties are provided for non-appearance or tardiness at shooting. Each contract specifies the part the young player is to enact, the anticipated length of the shooting schedule, and the salary he (or she) is to receive. In addition, each player, upon signing a contract, is required to put up a deposit to ensure that he will be available whenever notified of shooting: specified fines are deducted from the deposit each time the signer fails to show up when notified to do so, and lesser amounts are similarly levied for tardiness. This, coupled with the perennial enthusiasm of youth, has given Pixilated's players an enviable record for sustained activity, even though several months have sometimes been spanned between the start and finish of production.

All of Pixilated's production ventures so far have been profitable, and during the five years of its existence, the company has accumulated a surprising store of equipment and properties. The original sponsor, Mrs. Price, has continued to furnish the camera and projector, and also an upstairs room which serves the company as a combination office, cutting-room, workroom and prop-room. But in addition, the company now owns an excellent supply of lighting equipment, a recording-machine, film-editing equipment, miniature sets, wardrobe, make-up equipment, and the like.

Local business houses and organizations have gotten behind the efforts of these youngsters in several instances. The San Antonio newspapers, for example, have willingly publicized Pixilated's efforts, printing pictures and news-stories on every production. The Interstate Theatre Circuit—far from resenting their juvenile rivals—have helped whole-heartedly. The theatre-chain presented the company with a screen, and on at least one occasion (the making of "Hollywood Ho!") loaned the necessary costumes. Pixilated's players one year built a float for San Antonio's "Battle of Flowers" parade, and have made many "personal appearances." Most recently,

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the Principal of the high school which most of the young movie-makers now attend has become so interested in Pixilated's activities that he is planning to offer courses in Photoplay Appreciation, Script-writing, and other phases of movie work in the near future.

The financial side of Pixilated's activities is of particular interest. As has already been indicated, they financed their initial production by selling stock. This has proven such a successful method that it still continues. For the first production 300 shares of stock with a par value of 10 cents a share were issued. When the "first-run" showings of this film were completed, the company found its treasury in such healthy condition

that the management declared a dividend of 100% on the stock, and proceeded to finance the second production by floating a new stock issue—this time at 20 cents a share. And from that day to this, Pixilated's financial wizards have carried on with the same general plan of making their stock self-liquidating, though as the years have gone on and both the scale of Pixilated's productions and the financial responsibility of its members and stockholders increased, larger quantities of stock of higher par values have been issued.

As each picture is planned, shares in the necessary amount are sold to the young investors, and with the money raised, the picture goes into production.

When the picture is finished, tickets for the film's showings are issued to each stockholder in an amount equal to his holdings of stock. These tickets he sells, thereby automatically liquidating his investment. When the productions are big successes—as they usually have been so far—dividends are declared, and, following good business practices, surpluses are placed in the firm's bank-account.

All told, with executives, a board of directors, a stellar contract list, an extremely versatile technical staff, and regular office quarters, Pixilated Productions (not incorporated) seems to have almost everything, on its smaller scale, that a major Hollywood studio has. Everything except one—it hasn't got a deficit!

END

Transitions

(Continued from Page 174)

By using the smooth lap-dissolve, the audience is less conscious of the dissolve and concentrates solely on the subject-matter. As a consequence, if the sequences or changes you are affecting are closely related, the lap-dissolve is very advantageous for uniform pictorial flow.

Lap-dissolving a series of events indicative of early morning can be done by combining an alarm clock, morning paper, a bottle of milk on the back porch, frying eggs and bacon, and other occurrences which our thoughts connect with morning activities. This could also be done with direct cuts, but the effect would not be nearly as smooth. If, then, you wish to effectively carry the audience forward in thought, the mildest way is with the use of lap-dissolves or fades.

Another and speedier transition can be accomplished by using wipe-offs, but

inasmuch as most amateurs are not usually equipped to make wipe-offs, we won't dwell long on that point. Wipe-offs, like direct cuts, are usually very abrupt, and are not usually devoid to a certain amount of harshness. Instead of making the audience less conscious to the transition, it tends to call their attention to it and to concentrate on the trick camerawork of the wipe. You will notice that as a general rule the only place where wipe-offs are used in professional pictures is in the opening sequence of titles. After that, fades and laps predominate. In other words, the editors seem to do all they can to awaken the audience at the first part of the picture and then keep them awake by a rhythmic flow of scenes afterwards. Usually, when wipes are used in the story sequence, it is overdone and should have been substituted by a simpler transitory link.

The average amateur often becomes so enthused over his choice of a transitional effect that he loses sight of an important part of the continuity. This is evident mostly in films which are made in Kodachrome. Inasmuch as a lap-dissolve or fade is the smoothest transition, Mr. Amateur will forget his continuity of color and lap-dissolve a scene predominant in one color—say yellow, with a scene which is predominant in some other, such as blue or red. The contrast of color creates a harshness in the lap and the audience gets a color shock. There are so many phases to watch in transition effects that they become rather involved, unless careful study is made beforehand. But, then, no one ever said movie-making was easy—and if it were easy, we would not have so much interest in it!

In black-and-white scenes, the lap-dissolves or fades should be in approxi-

mately the same lighting key. If it is necessary to raise the lighting key, do it gradually as you approach the end of the sequence, so that the eyes become accustomed to the change. It is not a good policy to change quickly from a low-key scene to a high-key scene, instead soften the blow with an added transitional scene or two. This, however, will depend greatly on you and the picture.

Forward strides can be made in scenario films by using "montage" effects to replace titles or lengthy scenes. Although these effects are not necessarily transitions, they often serve as a transitional medium. Montage is the proper editing of disconnected short scenes which when viewed separately are meaningless, but when properly arranged convey a thought or lapse of time which is beneficial to the story.

All montage effects must be assembled for fast tempo, flashing suggestions to the audience to create an impression or change of thought. Slavko Vorkapich is a recognized master of this art in Hollywood, and when you see his name on the screen, keep a sharp eye on his montage creations. Many of his individual scenes are only two or three frames in length to merely suggest an idea to you; but when all are properly assembled together, they get over important ideas in a minimum of time and footage.

For an example, the scenario calls for the fast spreading of news. Here is an assemblage of scenes for it in which each scene is utterly meaningless but when properly cut and edited will give the desired impression. A lady rushes to a phone—cut to telephone wires and poles rushing across the screen—cut to another lady answering the telephone—cut to more wires—cut to another person on the telephone—cut to another person on the telephone—cut to Western Union telegram form—cut to wires—cut to a hand on a telegraph key—cut to a telephone switchboard—double expose a headline—cut to wires, people on telephones, etc.—progressively shortening each succeeding scene until you have speeded up the whole effect to a terrific tempo. Build up suspense or action until your audience is mentally apace with the spreading news.

Other effects of lapse of time can be accomplished by similar arrangements of scenes to give impressions ranging from short periods of a couple of hours, to a series of years.

Transitions and special effects are an integral part of any good picture and require the use of well-chosen ideas, excellent photography and an undetermined amount of care and patience. In transitions, work for smooth effect on the minds of the audience, avoiding any color shocks or idea-shocks. In montage, use direct cuts to awaken the senses and speed up the alertness of the viewers. Each have definite parts to play and each must be handled in a different manner.

END

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Teaching Cripples

(Continued from Page 175)

portance which the motion picture camera plays in dispelling this fallacy.

It is a great thrill for some "alumni" of the school to see recorded on motion picture film the appearance he made when he enrolled at the school in a wheelchair or on crutches, and then to note the manner in which he walked up to get his diploma on "commencement day."

In addition to the two motion picture cameras, the school also makes constant use of three still cameras, so that the photo "still" files may be kept up to date at all times.

The cameras used for this purpose include a Voigtlaender (Compur shutter) with Skopar f:4.5 lens. This excellent German camera purchased many years ago is still as good as new. By stopping down the camera to f:8 at 1/200th of a second on sunny days, the pictures seem to take on a third dimensional aspect in that the figure in the foreground stands out much like the subjects viewed through the old-fashioned stereoscope.

An Argus "candid," fixed focus 35mm. camera and a Leica camera, Model "F", which also takes 35mm. pictures, complete the school's collection of photographic equipment. **END.**

Scenario

(Continued from Page 177)

Scene 31: Close shot of vacuum cleaner moving across floor, followed by Wifie's feet.

Scene 32: Close-up of Wifie's hands, dusting the piano.

Scene 33: Angle-shot of Helen, adjusting a Photoflood.

Scene 34: Angle-shot of Wifie's hands making a bed.

Scene 35: Close shot of Helen's hands, taking film from camera, putting it in box.

Scene 36: Close-up of film-box being put into mail-box. **FADE OUT.**

Scene 37: **FADE IN.** Close-up of Postman's hands slipping returned film-carton into mail-box.

Scene 38: Close-up of Wifie's hands taking carton out of mail-box. **WIPE TO**

Scene 39: Close insert of another club-meeting notice.

Scene 40: Medium-shot of Wifie, across dinner-table. She is spruced up and smiling as she speaks.

TITLE:

"YES, OF COURSE, I'M GOING TO THE CLUB TONIGHT."

Scene 41: Close shot of Hubby, registering surprised pleasure. **WIPE TO**

Scene 42: Shot toward front door, from inside. Hubby and Wifie approach it, and go out together. **WIPE TO**

Scene 43: Long-shot at entrance of meeting-hall. Hubby and Wifie enter and greet various friends, who may or may not be shown.

Scene 44: Medium long-shot of Hubby, engaged in heated argument with a fellow-member.

Scene 45: Two-shot by projector. Wifie enters and hands reel of film to the Club Projectionist, then turns back in direction she entered.

Scene 46: Close-up of gavel pounding for order.

Scene 47: Montage, *ad lib*, of officers of club to suggest progress of meeting.

Scene 48: Close shot as projectionist turns on projector.

Scene 49: Insert, masked down to suggest projected picture:

TITLE:

MY DAY

By

Eleanor Filmer

Scene 50: Close-up of Hubby (with flickery front-light on face, dark background) He sits up suddenly in surprise, and watches intently. **FADE OUT.**

Scene 51: **FADE IN.** Long-shot of end of projection-room. Lights go on and the President steps forward. He speaks:

TITLE:

"THE WINNER IN THIS MONTH'S CONTEST IS—"

Scene 52: Two-shot of Wifie and Hubby. Suddenly both register amazement.

Scene 53: Close-up of President, speaking.

TITLE:

" - - MRS. TOM FILMER, WHOSE LAST-MINUTE ENTRY YOU'VE JUST SEEN!"

Scene 54: Same as Scene 52. Wifie and Hubby are still amazed.

Scene 55: *Ad lib* flashes of hands applauding.

Scene 56: Long-shot. Wifie's neighbor almost shoves her up, and she walks dazedly forward.

Scene 57: Close-up of President's hands presenting Trophy to Wifie's hands. **FADE OUT.**

Scene 58: **FADE IN.** Long-shot of Hubby and Wifie. The trophy is on the mantel at home, and both are admiring it. He puts his arm around her and kisses her. **WIPE TO.**

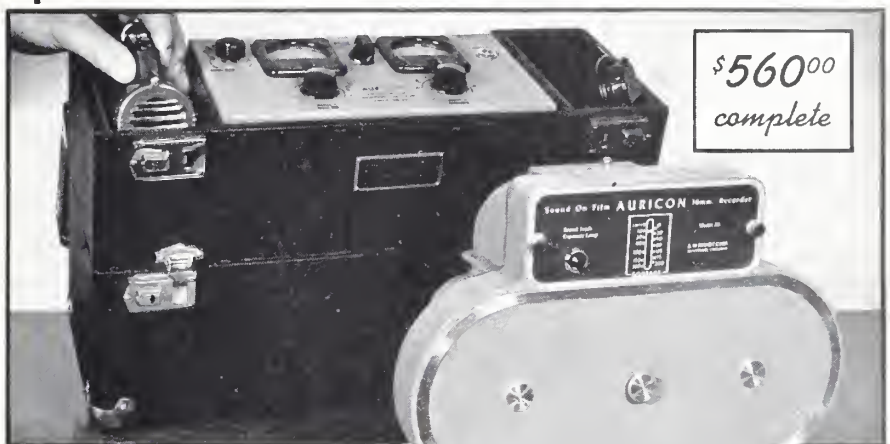
Scene 59: Insert: Close-up of Classified ad in newspaper, under "Help wanted, female," an ad for a domestic servant, with address of Tom Filmer. **WIPE TO.**

Scene 60: Medium-shot of Hubby and Wifie sitting in nearby chairs in their livingroom, contentedly reading the evening paper. Camera pans up to show dining-room, in which a maid is clearing away supper-dishes.

Scene 61: Close-up, between the two chairs. Hubby's hand steals over and finds Wifie's hand, and holds it affectionately. **FADE OUT.**

TITLE:

THE END



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8mm. In the Air

(Continued from Page 179)

other way; after all, you know, the Government says "Thou shalt not fly thy plane nearer to any other plane than 300 feet—" and there's a lot of good, sound common-sense in that ruling. After all, you don't want to get so intent on your shot that while you're making it, your two ships tangle in the air! The telephoto is a godsend there. Using a 1½-inch telephoto on my eight, I've frequently been able to bring other planes apparently so close to the camera you could see and recognize the pilot. Yet at all times we stayed the prescribed 300 feet apart!

Choosing subjects for aerial movies is one matter where you've pretty well got to take what the occasion offers. There's an endless fascination to shots of cloud formations, especially when they're big, puffy white cumulus clouds, maybe towering thousands of feet above you, against a dark blue sky. The interplay of light and shadow on a cloud-bank photographed from above is fascinating, too, especially if you fly over occasional holes in the clouds and get a peep of ground below.

Other ships in the air, whether flying conventionally or stunting, can do a lot to liven up your air sequence, especially in Kodachrome. Get a brightly-colored plane against a background of clouds, or blue sky, or mottled brown-and-green farmlands, and you've an eye-catching Kodachrome shot.

Shooting at objects on the ground, it is best to pick out something that is very plainly discernible. Bays and harbors are of course fine subjects—San Francisco bay from the air is one of the most impressive sights I've ever seen—but be careful now-days about using

your camera when flying over some of Uncle Sam's Naval ports; with the best of intentions you might include something the authorities wouldn't like displayed on film, and you're very likely to get a sharp note from the military or naval intelligence department, who keep a close watch on such things.

Rivers, lakes, dams like Boulder and Grand Coulee, and so on, are other plainly-evident features of any aerial landscape, and are fine camera-subjects. But my favorite are mountains. They're always picturesque—different each time you see them—in every different lighting and weather-condition. And they're so big they stand out handily in the finder—no small advantage, believe me.

Perhaps for this reason, I've filmed an unusual number of mountains all over Western America—from Pike's Peak to Mt. Rainier and Mt. Whitney, the highest peak in the United States. An aerial shot of one of these mountains is an impressive lesson in how small and insignificant we humans are. We fly along in our planes, proud that the power of our ship and the skill of our piloting have lifted us to an altitude of eight or ten thousand feet above the earth. Then we come to the mountain—and find it towering nearly a mile (sometimes more) above us. In reality or on the screen, it's an impressive sight! **END**

Idea Exchange

(Continued from Page 182)

haphazardly into the picture and suddenly arrange themselves to spell out your title. For 8mm., where you can't use the upside-down camera trick, you can sometimes work this by stop-motion animation, shooting a frame or so and then moving the balls a bit, shooting another frame, moving the balls in a bit

more, and so on. If you have a spot light, it's a good place to use it, for the sharp beam of the spotlight will make the balls look round, and throw interesting shadows.

R. D. THURBY.

Home Movie Previews

(Continued from Page 180)

number (this is printed on the edge of the carton). Then, if you are reasonably sure of your exposure technique hold all your film until the end of the vacation and send all of it to the processing-plant together, so it goes through together, under uniform processing conditions. In the particular scenes in question, either the color-balance of the film itself or of the laboratory on the day it was processed, leaned too far toward the blue.

All told, however, "Boots and Saddle" takes place among the most exceptionally fine vacation films we've ever screened. We'll be anxious to see more of Miss Marx's filming.

Movie Clubs

(Continued from Page 181)

this film an average rating of 96%.

The Club's new officers were subsequently installed at the Annual Banquet, held on March 19th. Photographic dealers in the Philadelphia area provided a total of 21 door prizes, and the members and their guests, over 200 strong, were addressed by Judge Earnest DuPille on his life and membership in the Adventurers' Club. Film Fare included a Kodachrome film on the Boy Scouts, prepared from a script by Arthur Gale. A.C.L., who also spoke on scripts and preparation, and the showing of the First, Second and Third Prize films from the Club's Annual Contest, presented with synchronized music and sound-effects.

B. N. LEVENE, President.

Bull-Fight for L. A. Cinema Club

The program at the March meeting of the Los Angeles Cinema Club was more than ordinarily varied. New member Gaetano Faillace presented a thrilling Kodachrome film of a bull-fight filmed on his recent visit to Mexico City; Ray and Marguerite McMillin, a beautifully-filmed picture of Yosemite, also in Kodachrome; Ray Patin presented "Flying Feathers," an out-of-the-ordinary film in black-and-white 8mm. demonstrating the expert skill required in archery; and the film part of the program closed with President Hight's Kodachrome film of Glacier National Park.

The balance of the evening was devoted to an innovation—a "Cinema Quiz"—which provided a lot of real fun as well as information. The winner received 50 feet of Kodachrome, which was captured by Mr. McMillin.

JACQUES SHANDLER, Secretary.

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Tri-City Studies Titling

The March meeting of the Tri-City Cinema Club (Davenport, Ia., Rock Island and Moline, Ill.) scheduled an instructive program, particularly featuring title-making and editing. The Eastman Kodak Co. lecture, "How Good is a Motion Picture?" was to lead the program, followed by demonstrations by club members on titling technique and adgets. Three films were to follow: "Longwood Gardens," DuPont; "Spring Blooms," 300 feet 16mm. Kodachrome by resident Mueller, with personally-made titles; and "Film Editing," 400 feet black-and-white 16mm. from the Harmon Foundation. The program concluded with the showing of members' films.

DR. ALBERT N. MUELLER,
President.

San Francisco Has Contest

The March meeting of the Cinema Club of San Francisco was highlighted by the Club's first contest. The regular program scheduled three special features: "That Man's Here Again," Kodachrome Christmas film by J. Allyn Hatcher; "Baby Time," 16mm. Kodachrome, by Member Louis Petri; and a 35mm. Kodachrome film made by Treasurer Russell Hanlon, showing his son's activities during the day.

JOHN B. SMURR, President.

Income-Tax Program in Minneapolis

Notices of the March 18th meeting of the Minneapolis Cine Club were sent out in timely imitation of the Government's Form 1040" which the members had presumably filed with appropriate contributions three days before. Interest, according to the notice, was promised to be above the 1% level, and a tax of exactly 10% on the members furnishing film-fare for the evening was promised. Films shown included "Northern Minnesota," by Albinson; "Old Man River," by C. Michener; "Hunting," by Thomas and N. Shattuck, and an assortment of short shorts including a wrestling number featuring the "Angel," by President Davidson and a ski picture by F. Thomas.

Meters, Mexico for St. Paul

Meters and Mexican scenics highlighted the scheduled program of the St. Paul Amateur Movie Makers Club. Consulting Engineer Carleton Mizen of the Northern States Power Co. was to speak on "The Weston Cell," and Mr. and Mrs. Arthur Swanson, whose twin hobbies are photography and the study of Mexican archeology, showed some of the 1000 feet of Kodachrome made on their recent visit to Mexico. J. V. Nelson showed a 100-foot Kodachrome news-film of St. Paul's Winter Carnival Parade; Harold Smith promised a pair of 100-foot 8mm. monochrome films: one, "Troop C," illustrating the use of photofade wipes and fades and the use of alphabet-soup letters for titles, while the other, "S. S.

Capital," illustrates the use of Scotch Tape for making wipes. Mr. and Mrs. John J. Lemanski exhibited the color-films made last summer on their Honey-moon in Yellowstone National Park.

New officers were installed at this meeting. These included Lloyd Oliver, President; E. C. Sickel, Vice-President, and Miss Agnes Marx (Secretary-Treasurer and Editor of the Club's publication "Reel Stuff." The members deeply regretted that illness had prevented last year's President and Vice-President, E. E. Bauman and L. L. Harmon, from attending the February Election Meeting.

AGNES MARX, Secretary.

Splicing for Washington S.A.C.

March 3rd meeting of the Washington (D.C.) Society of Amateur Cinematographers scheduled a talk on splicing by Horace Ashton, and the screening of "Caribbean Cruise." The Society's March 17th meeting featured sound, with a demonstration of a recording and playback machine by Earl Traeger, district representative of Bell & Howell, and a screening of Bell & Howell's 16mm. sound-film "What Makes Movies Move and Talk." Also scheduled was a continuation of the Kodachrome travel-serial made by the late Harry P. Baines, this installment consisting of three reels traversing the route from Cape Town to India.

JOHN T. CHEDESTER, President.

Long Beach Has Quiz, Hawaiian Programs

The March 5th meeting of the Long Beach (Cal.) Cinema Club was in charge of the new President, Miss Mildred Caldwell, just returned from an eight-week vacation in Hawaii. She presented a 200-foot color-film of a Luau or Hawaiian feast, loaned her by Francis Williams, Secretary of the Honolulu Club, 50 Kodachrome slides loaned by the Eastman Kodak Store at Waikiki, and two of her own Kodachrome films of Hawaii. The Club at this meeting also voted to change its regular meeting place from the Y.W.C.A. to the clubroom of the Bay Shore Library in suburban Belmont Shore.

On March 11th, the Club chartered a large bus to take 40 of its members to attend the meeting of the Los Angeles 8mm. Club, where they saw a demonstration of interior lighting by Charles G. Clarke, A.S.C. On March 19th the Club held its "school night." This "College of Movie Knowledge" meeting was conducted by Harold O'Neil who spoke on "How to Make Your Pictures Tell a Story." An un-edited Kodachrome picture of Canada was shown by Lois Elliott, Will Rogers High School teacher, and the members called on to discuss the proper way for editing it. Six new members were admitted to the Club, and the membership was closed at 50.

RAYMOND FOSHOLDT,
Secretary-Treasurer.

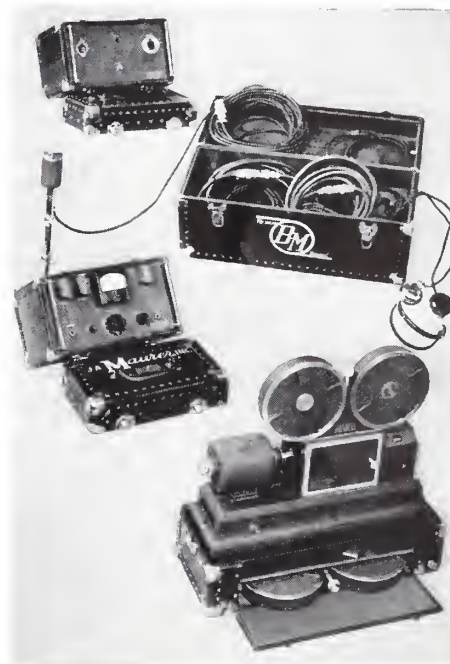
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Joe Walker

(Continued from Page 160)

the industry's best zoom lens design was developed and patented by Walker. Lenses of this design are used for zoom shots on production and on special-effects work in a number of the major studios today. He also designed a 16mm. semi-zoom lens. Another very practical invention is a method of variable diffusion, by means of which it is possible to alter the degree of diffusion during a scene. This is especially valuable in those dolly-shots which begin as a long-shot, for which relatively little diffusion is required, and move in to a close-up which may require much heavier diffusion.

Diffusion, to Walker, is another detail which should be studied with scientific

care. "All of us know," he says, "that each scene, and each type of picture and player will have its own individual requirements as to diffusion. But there are other points that are all too often overlooked. Diffusion isn't an independent entity: it must be balanced with a lot of other things. The same diffusion disc or filter won't necessarily give you identical results when used over different lenses. For example, a diffuser that will give you a certain effect with a lens that is characteristically brilliant will give an entirely different effect if you use it—even on the same shot—with another lens which inclines toward softness, or toward depressed gradation.

"In the same way, diffusion must be coordinated with the film you use, and the processing that film gets. When we changed from the early high-contrast

panchromatic to the improved Type I and then on through Super-Sensitive and Super-X to today's Plus-X, we've had to make compensating changes in our diffusion technique. Maybe we didn't fully realize to what extent we did this, for each time most of us have juggled around with our lighting, etc., too; but if you'll look back to the diffusion you were using just a few years ago, and compare it with what you consider normal today, you'll agree.

"Diffusion must even take into consideration the particular characteristics of the film-processing laboratory, too. We have sometimes made pictures on other lots, where the film went through a different laboratory. In every case, I found it necessary to experiment a bit beforehand, so I could coordinate diffusion with the processing of my negative.

"And diffusion discs, like lenses, have their individual characteristics. That's why, if you look into my accessory-case, you will see such a variety of diffusers—often several discs apparently of the same type. But I know that each has its individual effects; one, for instance, may give me, in combination with a certain lens, just the quality I want for photographing, say, Irene Dunne, while another gives me the slightly different results I'll want when photographing Rosalind Russell, or some other player.

"You probably won't need such an assortment as this all the time—but I've found that when you do want a particular type of diffusion or lens-quality, it's a big asset if you have it handy. Incidentally, since I've been experimenting with the new coated lenses, I've found an interesting little trick for keeping lenses clean and dust-free. You know, some of these lens-coatings aren't particularly rugged, and with a coating only a few millionths of an inch thick, you want to keep the friction of lens-cleaning to a minimum! So I now keep all my lenses when not in use, wrapped up tightly in the little cellophane bags the still-maker uses to slip over their flashbulbs. Just slip the lens in and twist the mouth of the bag tightly, and you have an excellent, dustproof lens carrier."

Walker is one of the few Directors of Photography who never served an apprenticeship as Assistant and Second Cameraman to any other cinematographer. In his early days, he was an electrical engineer, and firmly convinced he was destined to set the electrical world afire. His specialties were what was then called "wireless" and high-tension electricity. In the latter capacity he was one day called into consultation by an early-day studio, to advise them how to make a scene in which an actor was to sit in an electrified chair and emit sparks. One look told Walker that the studio electrician's set-up would not give the sparks wanted—but would undoubtedly electrocute the unfortunate actor just the same. He quickly rigged up a more practical arrangement which delivered the desired sparks with perfect safety. But watching the cameraman at work that day, the first, faint doubt arose in Wa-

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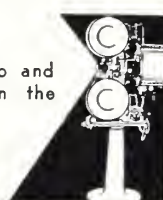
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ter's mind. The photographic germ had bitten him, and it was not long thereafter that he gave up his electrical job, and went to work in a motion picture film laboratory. Here he worked up through every stage from sweeping the floor to mixing solutions, developing negative, printing, toning and printing. At length, a rush call came for a cameraman to photograph a picture, but no man was available. Walker, despite his lack of experience in camerawork, talked himself into the job—and made good. He's been making good ever since.

"That may sound like coming up the easy way," he remarks. "But it wasn't. I had to find out everything for myself—and do it the hard way. I always managed to do it, but sometimes I was certainly praying for luck! And I've had many occasions to envy most of my fellow cinematographers who, when faced with a problem, could think back to their early training as an assistant to this or that outstanding cameraman, and recall how their teachers had solved similar problems. I still feel the lack of that varied early training, for while I don't think any of us is consciously imitative, I know that even today I sometimes wonder how another chap would handle his problem. I know, of course, how I've done similar things in the past, or how I intend to do now. But I'll admit there are times when I'd like the psychological advantage of that little mental check on my own methods."

Walker doesn't mention the other side of the picture, however—that this spirit of independence and self-reliance has given his work an individuality which has made him one of the industry's really outstanding Directors of Photography.

Coated Lenses

(Continued from Page 161)

eliminates an ordinarily imperceptible haze which ordinarily veils shadow-detail. By eliminating this haze, it permits smaller increments of illumination to produce a photographic exposure in much the same way that, as we discovered when faster films came into use, the added exposure-making sensitivity made "spilled light" pick up where previously it could be ignored. At any rate, I found the use of front-light and filler-light less necessary using coated lenses than it would have been using conventional objectives.

This style of lighting would probably not be appropriate for all types of stories, though I feel that the enhanced definition and brilliance would be suitable for more than might at first be expected. We should remember that there are styles in photography, as well as in anything else, and these styles are subject to change. My personal feeling is that the woozy, heavily-diffused style of cinematography is rapidly becoming a mode of the past. None of us, I am sure, would today count as good photography the excessively-diffused "fuzzygraphs" which fifteen or twenty years ago we considered the last word in photographic

art. In the same way, I feel present-day camerawork is evolving steadily away from even the less obvious diffusion currently in use, to new standards of photographic brilliance and definition. Properly used, the coated lens is a valuable instrument in this modern trend of photography. END.

Showcase

(Continued from Page 183)

user's choice of viewpoint. It covers the field of the 50mm. lenses, slips into the universal accessory bracket on top of the Ektra, and will retail at \$15.

The Right-Angle Finder for the Kodak Ektra is of particular use in obtaining unposed shots, as well as for shooting in cramped quarters where it is inconvenient to face the subject. Its price is \$10.

The Ground Glass Focusing Back for the Ektra possesses several interesting design features, which fit it both for accurate and studied composition of general scenes, and for extremely critical focusing on close-up subjects—such as table-top scenes, medical specimens, and line or tone copy. Similar in shape to the Magazine Back of the Ektra, it incorporates a ground-glass panel of extremely fine texture, a self-erecting magnifier for critical focusing, and a mirror which can be set at a 45-degree angle for reflex-type focusing at various camera positions. The price is \$25.

The Ektra Flash Synchronizer is a compact, highly efficient unit especially designed for use with this camera. It attaches to the top of the camera by means of the Ektra's accessory clip, and the tripper unit is simply screwed into the cable release opening of the camera. No other adjustment is required, yet the unit synchronizes for speeds up to and including 1/1500 second. The quick-ejection socket and ellipsoidal reflector are arranged to accommodate No. 30 or No. 31 Photoflash lamps. For work in dim light, a small flashlight lamp is included, which when turned on provides illumination for the scales and control dials of the Ektra. The price is \$17.50.

The Kodak Tripod Clearance Head for the Ektra is a compact, inexpensive unit which raises the camera a short distance above the tripod head. This allows the hinged cover of the Magazine Back to be opened for loading or unloading, or another Magazine Back to be substituted, without removing the camera from the tripod. The price of this unit is \$1.25.

5 Speeds for B&H Magazine

Bell & Howell announces the addition of a fifth speed to the Filmo Auto Master (Turret Head), and the Auto Load Speedster, B&H 16mm. magazine loading cameras. This new speed is 24 frames per second or "sound" speed. Films taken thus may have a sound-track "dubbed" in later, and since all 16mm. sound pro-

jectors operate at 24 frames per second, the action in the picture is, of course, perfectly natural. 24 speed is also ideal for slowing down rapid action to a degree more pleasing on the screen, action such as a pole vaulter rising to clear the bar, kittens at play, etc.

This new speed gives these B&H cameras a speed range of from 16 to 64 frames per second. There are now five

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speeds—the normal 16-speed, for general silent-picture use; 24-speed, for sound to be added later, etc.; 32-speed, for shooting from moving vehicles and for fast action shots; 48-speed, for semi-slow motion; and 64-speed, for analytical slow-motion study.

Agfa 35mm. Copying Films

Photographers and documentary technicians engaged in microcopying will be interested in two current developments affecting Agfa films used in their work. The films involved are Minipan and Minipositive, both made by Agfa Ansco in Binghamton, New York.

Agfa Minipan film, the new and yet already popular film of high resolving power for microcopying, is now supplied at a new, lower price. The 100-foot darkroom-loading and daylight-loading 35mm. spools now list at \$5.25 each.

Agfa Minipositive, a new film with an emulsion having special characteristics essential for microcopying, is now available to complement the function of Agfa Minipan. The new Minipositive film incorporates balanced characteristics of fine grain, high contrast and high resolving power that make it ideal for preparation of positive transparencies from microcopy negatives. The standard 100-foot length, perforated or unperforated, darkroom-loading spool of Minipositive lists at \$3.75.

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Kodachrome Processing

Kodachrome Film in the 35mm. and Bantam sizes can now be processed at laboratories in Rochester, Chicago, and Hollywood, and should be sent to the nearest one, the Eastman Kodak Company announces. The addresses are: Eastman Kodak Company, 1017 N. Las Palmas Avenue, Hollywood, California; Eastman Kodak Company, 1712 Prairie Avenue, Chicago, Illinois; and Eastman Kodak Company, Rochester, New York.

Filmosound Library in San Francisco

The Bell & Howell Company, Chicago, opened a San Francisco Branch of the Bell & Howell 16mm. Filmosound library this month, at Photo & Sound, Inc., San Francisco.

Photo & Sound, Inc., producers of industrial and educational pictures, will handle the film distribution and rental for Northern California, making it possible for 16mm. projection owners in that area to receive one-day service on rentals.

Bell & Howell Company now has three West Coast branches, Hollywood, San Francisco and Seattle.

Agfa Fluorapid 35mm.

Following extensive experimental work and close cooperation with interested medical authorities, a new Agfa film has been perfected which is ideally suited to the direct photography of fluorescent screens. Known as Fluorapid, the new emulsion is made by Agfa Ansco in Binghamton, New York, and will be available in various lengths of perforated 35mm. film stock.

Main application of the new Agfa Fluorapid film will be its use in large-scale x-ray surveys, where small-size records of x-ray examinations are preferred for reasons of economy and filing space. Additional applications are anticipated in other fields employing fluorescent screen images.

The characteristics of the Fluorapid emulsion include unusually high sensitivity to fluorescent-screen radiation, fine grain, moderately brilliant gradation and a color-sensitivity closely matching the spectral emission of standard fluorescent screens. Regularly available sizes of Fluorapid film will include 5½-foot spool, 36-exposure Leica-type cartridge, 250-exposure Leica FF spool, and 33- and 100-foot bulk lengths.

Oddities Shown in Film

In Milwaukee, according to Nu-Art Films of New York, a vehicle can park only two hours—unless it is hitched to a horse! This and a number of other idiosyncrasies of the traffic laws of several states are shown in the single-reel 16mm. subject, "Oddities In The Law," distributed by Nu-Art.



Rodgers G-E Studio Contact Man

Replacing Lieut. (s.g.) Francis M. Falge, recently called into active service by the U. S. Navy, Alston Rodgers, Division Engineer of the South Pacific Division of the General Electric Company Lamp Dept., takes over the post of his firm's technical consultant on studio lighting matters. Rodgers has been actively engaged as a lighting engineer for fifteen years. He joined the Edison Lamp Works at Harrison, N. J., upon his graduation from the Stevens Institute of Technology. Subsequently he cooperated in the design of many of the outstanding lighting installations in and around New York City. He has always been particularly active in studio and theatrical lighting.

He joined the G-E Engineering Department at Nela Park (Cleveland, Ohio) in 1930, and for several years did noteworthy pioneering engineering work there. At that time he was associated with the many G-E researchers working on designs and experiments which resulted in the production and improvement of incandescent lamps for motion picture studio use.

Since 1936 Rodgers has been located in Los Angeles, as Division Engineer and is already well-known to many studio people. He is assuming his new responsibilities immediately. Lt. Falge, his predecessor, is now on active duty with the Navy, aboard the U.S.S. Arizona of the Pacific Fleet. END.

Projectors—and cameras—should be oiled at frequent intervals, but sparingly. A drop or two each time is enough.

Pioneering Talkies

(Continued from Page 164)

ing camera; the blacking out by printing, of the otherwise noisy pauses in the positive sound-track (the basic patent in all processes of "noiseless recording"); the method of dubbing sound recorded in synchronism with a projected picture. This was practiced first in 1924 for *The Covered Wagon*, as exhibited in the Rivoli Theater during portions of the "Supper Shows" when Riesenfeld's Orchestra was not playing. We did the same in 1925 for his splendid score of *Siegfried*, actually recorded in the Century Theater while the orchestra was playing to the projected picture.

Monologue numbers by Eddie Cantor, George Jessel, DeWolf Hopper and Chic Sale; dialogs between Gloria Swanson and Thomas Meighan, and Weber and Fields; Fokina's Swan Dance; playlets with Raymond Hitchcock; orchestra recordings by Ben Bernie, Paul Specht, Roger Wolf Kahn, and similar entertainment made up our repertoire during this early period of 1923-27.

It may not be remembered that Technicolor was first wedded to sound in the spring of 1925, when Balieff's entire *Chauve Souris* was thus recorded, using a sound-camera synchronized to the color camera, whose noise was quite successfully suppressed beneath a quilt blimp within an "ice-box" booth with walls eight inches thick. The sound-track was then printed on the green positive, which dyed surface, although serving better than the red, was found quite unsuitable.

Nevertheless certain numbers of this production were exhibited during 1924-25 to enthusiastic audiences in the London Tivoli, and in Japan and Australia.

About this same time I adopted as standard back-screen equipment large vertical exponential horns of wood with a cone-speaker at the base, and trumpets with Western Electric dynamic receivers located in the bell of the horn. Theater screens were yet unperforated.

Another very practical patent taken out during this era covers the camera "blimp," in an acoustically treated studio.

"Phonofilm" reproducing apparatus installed in thirty-four theaters scattered throughout the East in 1924-25 led

to the joint invention by Louis Reynolds and the author of the now well known "tone-control," whereby the operator, or a monitor in the auditorium itself, was enabled to mix the relative values of high and low frequencies to suit best the acoustic characteristics of the theater, or as the audience grew or diminished.

My early theatrical experiences were replete with humorous incidents interspersed with discouragement and heart-failure. For example, the only occasion on record when one of my first operators, Billy Brinkman, failed to forget to turn on the amplifier switch before he was applauded or kicked into that action was when he went home after the show one night and forgot to switch the amplifier off! The following matinee went off without a hitch. Unquestionably I shortened my life by several years by dashing up long flights of gallery stairs, two at a stride, to endeavor to start or improve the sound reproduction.

The spring of 1924 witnessed the first talking Newsreel, when an improvised sound-truck journeyed to Washington to record a pre-campaign talking-picture of President Coolidge on the White House lawn. That same summer saw also the Progressive Candidate, Senator La Follette, and the Democratic, John W. Davis, vying for motion picture theater audience popularity. In 1925 Al Smith and "T. R., Jr.," each visited my studio to tell the recording camera why he should be elected Governor of New York.

The early public acceptance of this type of News Weekly readily convinced Manny Cohen, of Pathe News, that it possessed an assured future. Only our exceedingly modest royalty demands prevented him from thereby saving millions in later royalties for that organization.

Today, when the entire motion picture world has been for several years almost 100 per cent "talkie," it seems to me incredible that only a little more than a decade ago not one of the "Big Guns" in the industry believed that the talking picture had any place in the theater. Such "best minds" as Adolph Zukor, Sidney Kent, Goldwyn, *et al.*, turned a deaf ear to all arguments by myself, Hugo Riesenfeld, and Harold Franklin. When I found that William

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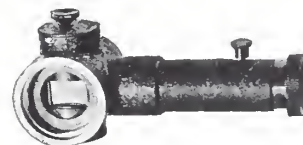
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Fox was a fellow passenger on the Berengaria as I returned with my demonstration equipment from the Berlin Laboratory, he refused to meet me even to discuss the subject. And when in 1924 he returned to New York and learned that Phonofilm was actually installed in some six of the Fox houses he peremptorily ordered them all taken out, without even deigning to witness a demonstration.

Yet a year or so later, when the farsighted Courtland Smith had, almost surreptitiously, installed the Case equipment in the Tenth Avenue studio, Fox, then very likely aroused by reports of how "Vitaphone would astonish the world," lost no more time in tying up with the invention and launched a program which brought into being an eight million dollar "Movietone City."

Even Sam Katz, astute purveyor of the newest and most daringly original acts and stunts for entertaining a blase public, turned in 1926 the glazing eye and the clammy hand to my lieutenants who sought a limited-term contract to road-show this "short-lived novelty" of the "Talking Picture."

Unquestionably it was the absolutely unique prescience and courage of Sam Warner, and later his brothers, which finally resulted in arousing the motion picture industry to the belated realization that here at last science and invention had created a new instrumentality, one which the mute public had long and patiently awaited; and which, once launched on the sea of public acceptance, was destined to sweep over those antiquated studios and half-empty theaters with a tidal wave of irresistible momentum, ruthlessly scrapping their worn-out equipment, outdating their time-honored technic, relegating their priceless art and high-priced artists to an oft-lamented limbo, at a cost in millions which staggered even the intoxicated imagination of Wall Street, in the millennium of predepression "rugged individualism."

But although Vitaphone and phonograph-recording got away first in its race with film-recording, the terrific handicaps of its involved technic, geometrically increasing as its public acceptance grew, inevitably led to its general abandonment in favor of the numerous practical advantages which I regarded at the very commencement of my researches as inherent to any photographic sound-on-film process.

And while on the subject of future developments I venture to prophesy an independent volume-control sound-track, shown in an early patent, will, I believe, yet demonstrate its utility in the art. The second track offers certain advantages in dubbing, avoiding all photographic complications of superimposing a loud record upon a weaker, or the reverse. In general, the inherent limitations of the emulsion may be entirely eliminated by the use of the double sound-track.

Although the author has been for the past five years quite outside of the then too crowded talking-picture activities,

yet to look back upon all this history of invention, this genuine social revolution, this Caesarian birth of a national industry, in which it was his fortune to pioneer—is to me now at least a source of grim satisfaction, impossible to express. **END.**

Academy Honors Still-Men

Marking the first time in the history of the motion picture industry that official recognition has been extended the work of studio still photographers, the Public Relations Institute of the Academy of Motion Picture Arts and Sciences is sponsoring the First Annual Exhibition of the Artistry of Motion Picture Still Photographers. The exhibit opens on April 14 at the Academy's Review Theatre, 1455 North Gordon Street, Hollywood, and will continue until the night of April 27.

Special gold medals will be awarded to the winners in the seven exhibit classifications. These groupings include: (1), posed portrait studies (male or female) made with 8x10 camera; (2), action portraits (male or female) more with either miniature, 4x5 or 8x10 camera at discretion of entrant; (3), posed production stills made with 8x10 camera; (4), action production stills (exterior) made with 8x10 camera; (5), action stills (any type) made with miniature camera or 4x5, with or without flashlights; (6), fashion stills (feminine) made with either 4x5 or 8x10 camera, and (7) most original idea in still picture, made with any type of camera during the filming of a motion picture or in a photographic studio on the lot. Entries in this latter class may be symbolic, modernistic, futuristic, etc., but must be from a single negative rather than a montage or enlargement "trick" still.

A total of 58 studio still photographers turned in 615 entries in these various classifications and, with six prints permissible in each entry, the judges have been faced with the huge task of analyzing 3690 individual prints. When the exhibit opens, all entries will be shown. It

is stated that never before have so many photographs been assembled for public exhibition.

Requests are reported coming in from art museums, camera clubs, etc., in all parts of the country, asking that the exhibit be sent to them for special exhibitions. The officials of the Academy are planning to send the exhibit on tour to these various museums. Present plans point to the exhibit traveling throughout the United States for the next twelve months. When the second annual exhibit starts it is then planned to send this first one on a tour of South America.

Committee in charge of the exhibit consists of Perry Lieber, chairman; John Joseph, Howard Strickling, George Brown, Louis Smith, Harry Brand, Robert Taplinger, Frank Seltzer, Jock Lawrence, John LeRoy Johnston and Donald Gledhill.

The classification committee is comprised of Gene O'Brien, Leo Leftcourt, Charles Goldie, Harry Cottrell, Mike McGreal, Dannie Thomas, John LeRoy Johnston, Perry Lieber and Hal Hall.

Judges are: Peter Piening, Life; Vernon Pope, Look; Tom Maloney, U. S. Camera; Mike Kennedy, Chicago Tribune; Thomas Sherman, St. Louis Post Dispatch; Stanley Kalish, Milwaukee Journal; Arch Luther, Philadelphia Inquirer; Warden Woollard, Los Angeles Examiner; Charles Judson, Los Angeles Daily News; Stanley Gordon, Los Angeles Times; Gene Withers, Los Angeles Herald-Express; Harold Swisher, Hollywood Citizen-News; George Watson, Acme Newspictures; Don Brinn, N. Y. Times-Wide World Photos; George Reineking, International News Photos; Dick Strobel, A. P. Photo Service; Gregg Toland, A.S.C., Cinematographer; Farciot Edouart, A.S.C. Technical Expert, and Ken Clayton, Des Moines Register-Tribune.

The exhibit exhibit will be open to the public, and the committee announces that amateur camera fans will be permitted to bring their cameras and flash bulbs and photograph everything. **END.**

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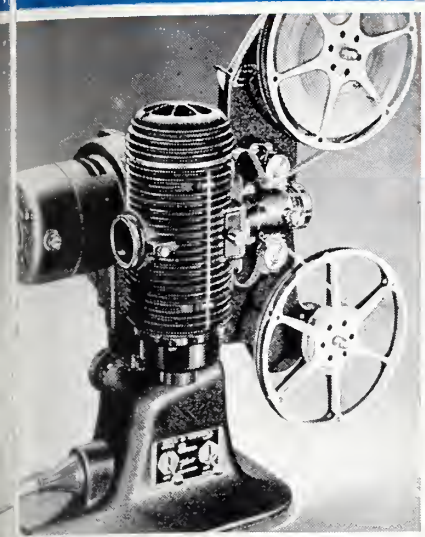
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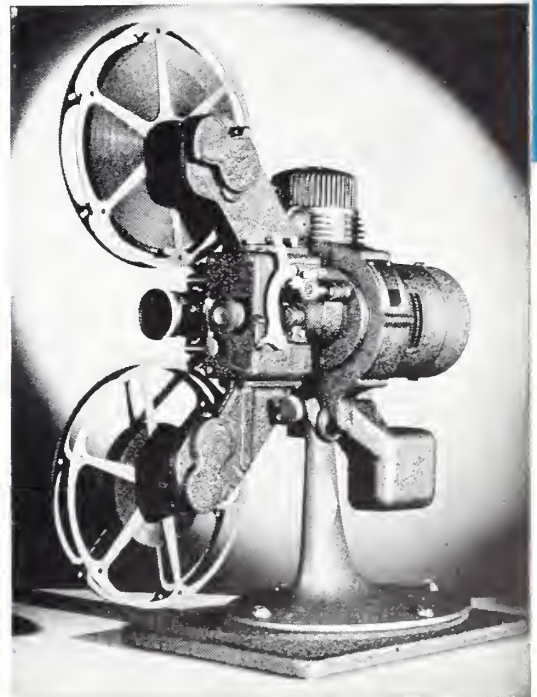
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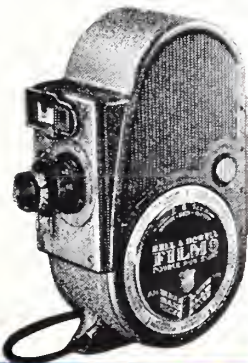
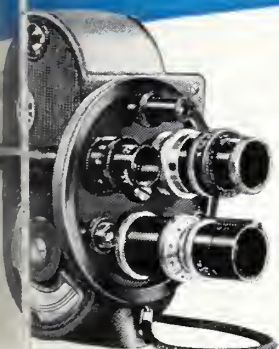
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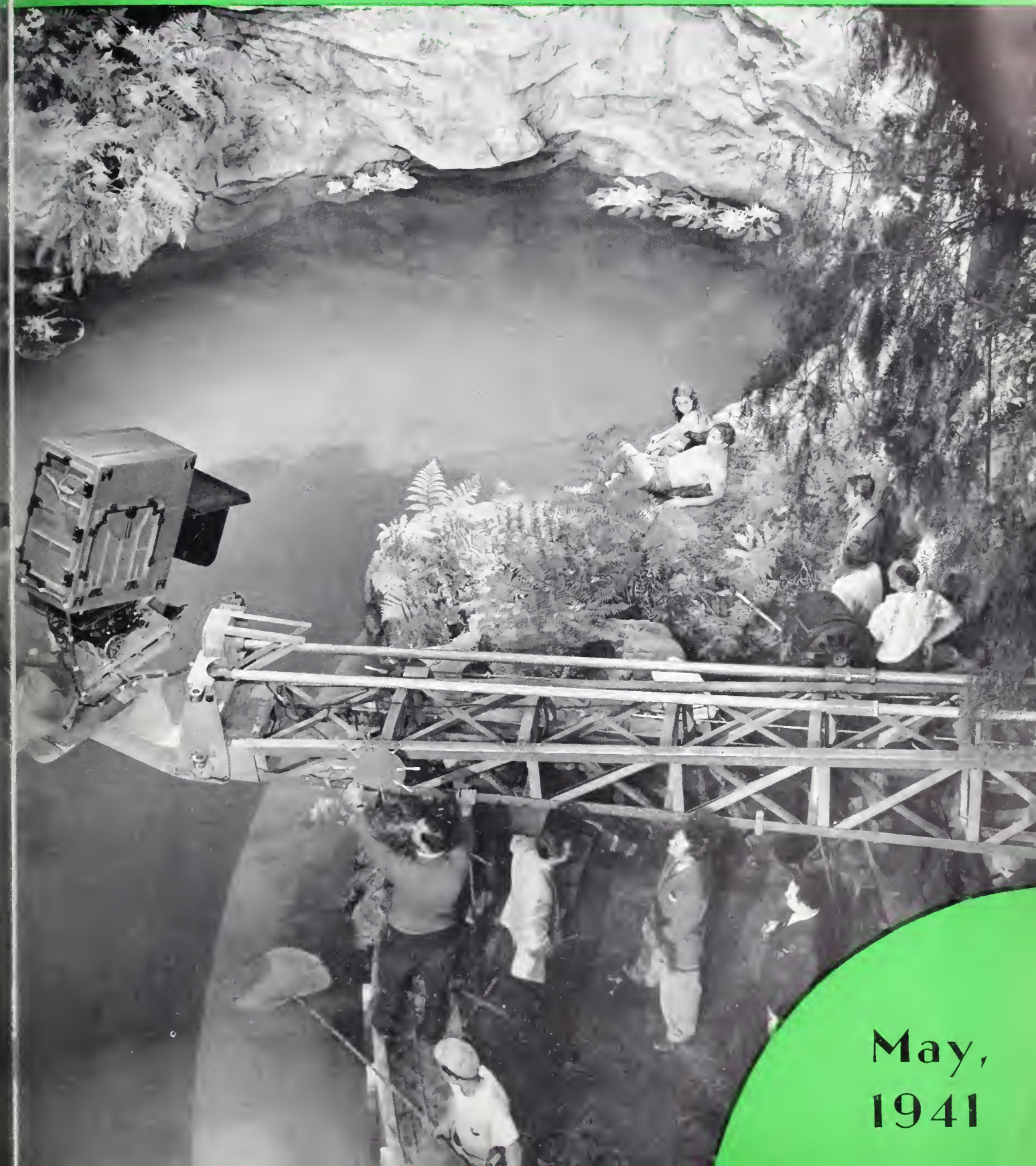
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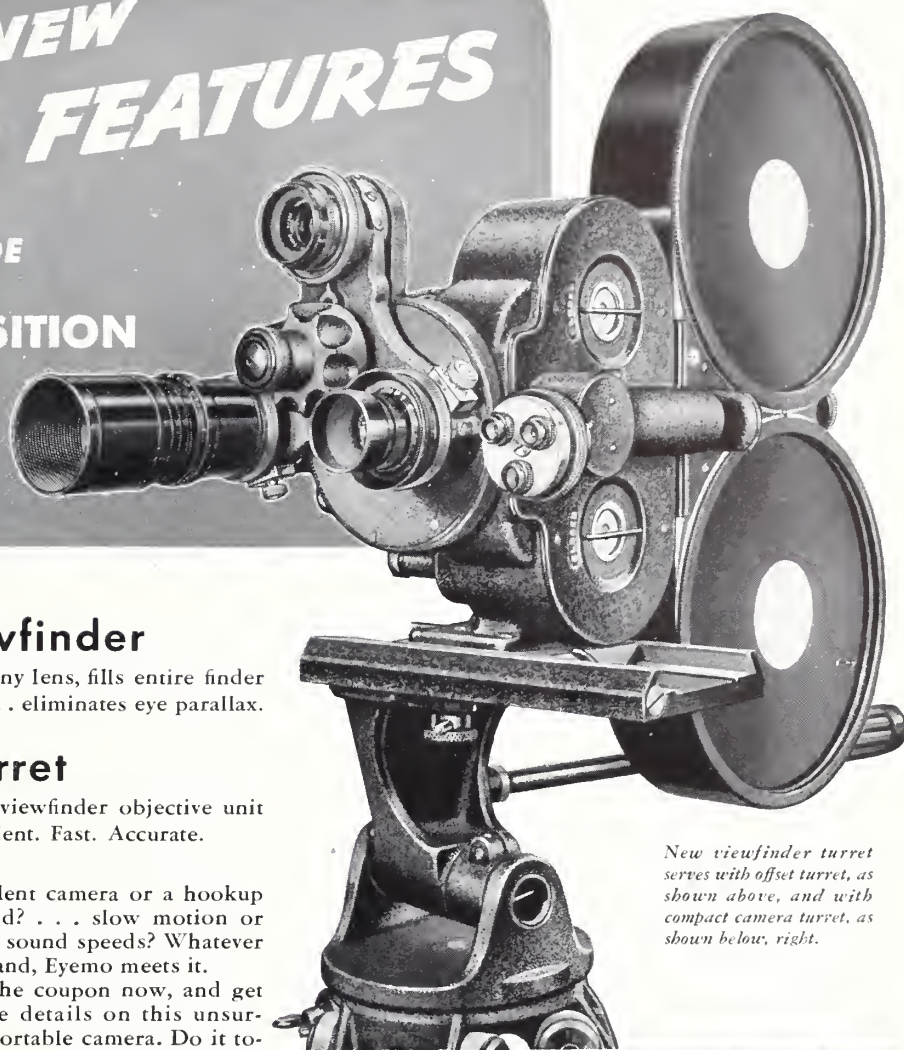
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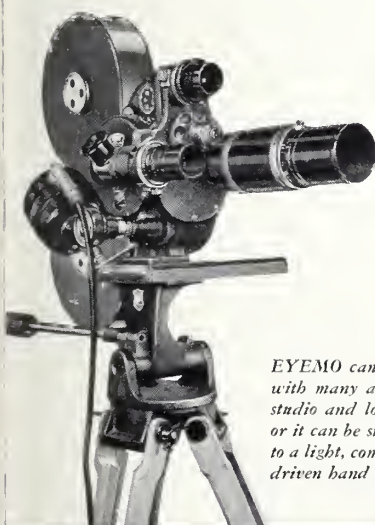
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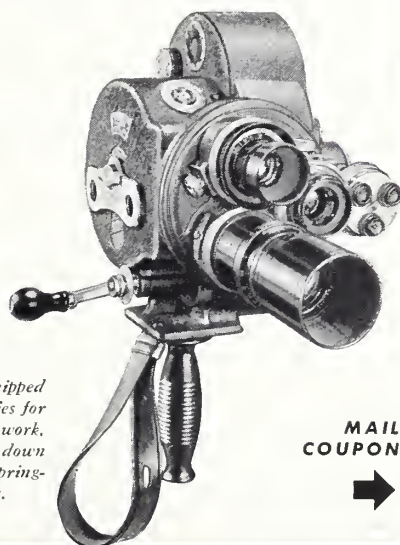
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The Front Cover

This month's cover photo shows the making of a scene from Paramount's Technicolor "Aloma of the South Seas." Both Director of Photography Karl Struss, A. S. C., and Technicolor specialist Wilfred Cline, A. S. C., appear to have been busy elsewhere when stillman Malcolm Bulloch snapped his shutter. Operative Cinematographer George Clemens rides the boom.



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Breaking the Bottleneck of FINE-GRAIN POSITIVE

By WILLIAM STULL, A. S. C.

THE announcement that all Paramount releases subsequent to the forthcoming "One Night in Lisbon" would employ the new fine-grain positive film-stocks for all steps from studio to theatre—original sound-track negative, dubbing prints and negatives, release sound-track negative and sound-and-picture release-prints—heralds not only the industry's first complete acceptance of these new materials, but a noteworthy achievement in production engineering.

For more than a year the industry's photographic, sound and laboratory experts have been aware of the tremendous improvements in picture and sound quality which could be brought about by all-the-way utilization of fine-grain positive; virtually every major studio has made some experiments in this direction, utilizing the new stocks for vari-

ous recording or re-recording operations, and in some few instances printing all or parts of a release on fine-grain positive.

But there has existed one serious technical and commercial obstacle in the way of complete acceptance of these advanced emulsions. This bottle-neck is, of course, the low sensitivity of these films in comparison to the positive emulsions conventionally used, necessitating greatly increased exposure and in consequence modification or complete replacement of the light-sources in all positive film-exposing mechanisms, including recorders, re-recorders, printers, and the like with much more powerful ones, usually of types emitting a strong percentage of the ultra-violet light most effective with these emulsions.

This can be a considerable technical and economic problem even when at-

tempted on the relatively small scale of changing over the comparatively few units needed to handle only the making of dubbing prints and re-recorded sound negative. When to this is added the greater and more varied technical and economic problems involved in changing over the original recording equipment and printers necessary for utilizing these slower, if better, films for every step from set to screen, the question becomes one which cannot be solved overnight. This is especially the case as regards the release-print laboratory, where the financial cost-to-profit ratio is usually so narrow that the outlay for such an extensive change is approached reluctantly, if at all. For this reason the release-print laboratory has been generally regarded as the bottle-neck which must be cracked before the industry could take full advantage of the improved sound and picture qualities offered by fine-grain emulsions.

The first steps in Paramount's pioneering switch to fine-grain were taken some time ago when the densities, gamma and processing methods necessary to secure optimum results with picture and sound on the new stocks were determined by members of the studio's photographic, recording and laboratory staffs. These are particularly important in the case of sound where, as is well known, off-standard density or contrast of the sound-track at any stage is likely to introduce undesirable distortion in the reproduced sound.

With these fixed standards determined, the necessary steps to obtaining them could be taken. As the fine-grain emulsions themselves were improved by the film manufacturers, it may be pointed out, modification and simplification of some operations were found possible until the set-up reached its present state, which may be accepted as a standard.

Getting the requisite increased exposure in any operation meant either the use of considerably more powerful Mazda light-sources than had previously been used, in some instances with corrective ultra-violet filters, or the installation of high-intensity mercury-vapor arcs which are inherently rich in ultra-violet.

For making the original recording, which is now being done on DuPont's Type 226 fine-grain recording film, various characteristics of the mercury arc, such as its need for high voltage and an extended warming-up period after striking, made this light-source seem imperfectly suited to recording service. Therefore the present practice at Paramount is to employ a special Mazda lamp, developed for the purpose by General Electric.

Re-recording, however, is done with mercury-arc lamps, as the objections to the use of such a light-source which apply to making original recordings on set or location do not apply in re-recording service. The dubbing print is of course made on fine-grain stock, either the DuPont 222 or the Eastman 1302 stocks being used.

The release sound-negative is recorded by mercury-arc light on DuPont Type 226 fine-grain positive, and the composite sound-and-picture release-print made on Eastman Type 1302 fine-grain positive.

High-pressure mercury-vapor arc lamps have been standardized throughout the laboratory as the light-source for all fine-grain printing. The Type AH-8 mercury arc lamp is used throughout for this service. This lamp is a surprisingly small unit producing a light-flux of great intensity, and especially rich in ultra-violet radiation. It may be burned in either horizontal or vertical positions, and it appears to have a useful life at least as long—perhaps longer—than the incandescent types formerly used. Some have already been in use for over six months (the average life of the previous globes) and are still giving good service.

In Paramount's laboratory, these lamps are all operated on Direct Current at 400 Volts., at wattages ranging according to the service desired, from 50 to 150. Alternating current is necessary for striking the arc. This is provided by a special striking coil which when the striking-wire is rotated into position beside the lamp produces a momentary high-frequency discharge which generates by induction a corresponding charge in the lamp, striking the arc, which thereafter operates on DC.

The mercury-arc lamps of this type used in the Model D Bell & Howell printers used for printing dailies, dubbing prints, etc., and in the Cinex light-testers are operated at 80 watts. In adapting the light-testers to use with fine-grain positive, minor modifications were of course necessary to assure that the Cinex steps would continue to match the printer light-change steps as they formerly had done.

The major problem, however, lay in changing over the battery of Bell & Howell continuous automatic production printers used for release-printing to the use of mercury-arc lamps and fine-grain film. For one example, the optical systems in these printers (as also the optics of various other units, such as recorders, etc.) originally contained elements of lead-glass which, as is well known, is virtually opaque to ultra-violet light. These all had to be replaced using quartz, crown glass, and other optically acceptable materials capable of transmitting ultra-violet.

For another example, it was deemed best to be able to operate the lamps in these printers over a considerable range of wattages, so that the change, once made might be capable of accommodating any possible combination of negative-density and present or future types of fine-grained positive. An air-cooled adaption of the mercury-arc lamp was therefore installed, utilizing a comparatively low-pressure air-circulating system in which each printer is supplied from its own blower which is in turn driven by a motor series-connected with the arc, so that the light cannot operate without its cooling system. Thus while at present

the arcs in these lamps are operated at wattages considerably lower than those used in the daily printers and light-testers, they may be used over a range of from 50 to 150 watts, and in release-printing service may be burned almost indefinitely without heating and with a thoroughly uniform light-flux.

Each printer is supplied with its own voltage controls, so that its light may not only be held uniform, but controlled independently of the other units.

Since these printers automatically print both sound and picture at different apertures, each is provided with two of these air-cooled mercury arcs. These lamps, incidentally, have proven particularly favorable as light-sources for use in these printers, which require a long, narrow line of light at each printing aperture. The linear light-source provided by these mercury-arc lamps appears almost ideal for the purpose, as it needs only to be focused on the aperture, being inherently of the right shape and proportions.

With these various modifications, Paramount's laboratory is now equipped to handle in excess of 500,000 feet of fine-grain positive per day. The studio's East-coast laboratory, where further re-

lease-prints are made, is likewise being equipped to handle fine-grain in quantity. This change-over of the West Coast plant to 100% fine-grain operation, it must be pointed out, was made *without in any way interfering with the flow of current production*—a very considerable achievement.

Laboratory Superintendent Ray Wilkinson is particularly insistent on this point. "In the early days," he remarks, "we could make a technical change for its own sake, with little regard for its effect on other things. For example, I can remember when cinematographers and directors thought nothing of waiting two or three days to screen their rushes, and a day or so more or less due to changing equipment, materials or methods would have meant little. But today, even if a unit finishes shooting well after midnight, they expect to see their rushes before they start work the next morning—and any delay in this schedule because we were changing over or had changed to a different film or equipment would badly disrupt the whole studio routine. Frankly, I am as proud of the fact we have made this complete change without for a minute interrupt-

(Continued on Page 236)



Enlargements from identical negative frames printed on (left) standard positive and (above) fine-grain positive.



RUSSIA'S Third Dimensional Movies

By S. IVANOV

THE auditorium is plunged in darkness, except for a little lamp suspended from the ceiling by a long cord. But wait—an actor suddenly reaches out from the screen and draws the lamp towards him.

How did he do it? As a matter of fact, there was no lamp left burning in the auditorium. It was simply an effect produced by the stereoscopic cinema, which not only creates a tangible space behind the screen, but apparently casts the image of the objects or persons in the film into the auditorium itself. Thus, the boundary-line between screen and audience mysteriously disappears.

A young man on the screen is smoking, and, strange to say, the smoke-rings float away over the heads of the audience . . . Now a little flock of gaily-colored birds sweeps out of the film and, circling about the auditorium, they surprise the people with their twittering. So real do they seem that you are half inclined to stretch out your hand to catch one . . . A juggler flings a ball straight at the audience and those who happen to come within his line of vision blink and duck involuntarily to avoid getting it in the eye.

These are the kind of sensations one

must expect to have at a showing of the first three-dimensional film in the first stereoscopic cinema-theatre, which was fitted up and ready to be opened in Moscow, in December, 1940.

Right from the infancy of the cinema, inventors all over the world have been striving to bring sound, color and depth to the flat, grey, mute art of the film. The problem of sound was the first to be solved. Then came color. More and more color-films have been released during the last few years.

One of the most difficult of film problems proved to be stereoscopy, that is to say, the three-dimensional film. We were content with the silent screen until we discovered the sound-film. We admired grey monochrome until we could feast our eyes on color. And even now we do not really notice the flatness of the people, the houses, and the landscapes we are shown at the cinema. Yet the expressive power of pictures would gain immensely if the screen acquired the third dimension—depth, or bulk, if you prefer to call it that.

Leonardo da Vinci was one of the first to study the problem of stereoscopic imagery, and since his day countless attempts have been made to solve it.

During recent years there have been many rumors, but little concrete information, regarding the experiments being carried out in Russia with stereoscopic cinematography. We are therefore glad to be able to publish this article by the inventor of a system apparently in use in Russia, describing the general principles of his system. While we regret that the author was not able to give more specific details of the optical system employed, and of the construction of his "perspective grille," we believe the present brief discussion of the subject will be of interest to all our readers. It is to be hoped that more complete details of the system may be available at a later date.—THE EDITOR.

Everyone, of course, has seen an ordinary, primitive "still picture" stereoscope. If we look at two views of the same object taken from different angles, we feel the space and relief in the photos. The main drawback of this simple apparatus is that it can be used by only one person at a time.

How can the principle of the stereoscope be applied in the cinema? Many of the methods suggested are based on the "spectacle" principle: that is to say, the audience can only obtain the proper stereoscopic effect if they wear special glasses. In this case the object can only be seen in relief by a very limited number of persons sitting directly opposite the screen. Instead of optic lenses some inventors suggest colored glasses (red and green) or "crossed" polarizing filters, but these do not produce the desired effect either.

We have succeeded in finding, after many years of experiment, what appears to be the most satisfactory solution of the creation of a stereoscopic film. Its merits are that it dispenses with the necessity for wearing special glasses and that the representation in relief can be seen as such from any part of the auditorium.

The stereoscopic film differs from the ordinary in that each frame is divided into two parts, like stereoscopic photos, for the left and right eyes. The filming of a picture can be done with ordinary cine-camera, and does not require two objective lenses in the same camera. A simple device called a stereo-nozzle, consisting of two mirrors connected by a hinge and placed at an angle somewhere approaching 180° to each other, is placed in front of the objective of the cine-camera. These two mirrors divide, as it were, the one image into two that are fixed on the film.

The stereo-film is also shown with an ordinary projector. The only difference is that the mirror arrangement that casts the reflection onto the screen is placed at the opening through which the ray of light conveying the image comes from the operator's box.

The principal thing is the screen; ours does not resemble in the least the usual cinema-screens. A special grid made of radiating transparent and opaque bars is placed before the blank white sheet. Through this grid two images taken for the right and left eyes are projected on the screen. The rays of light issuing from the one image are partly, on reaching the grid, swallowed up by its opaque bars, and partly pass between them and are projected on to the screen as narrow lines. The same thing happens with the rays from the other image, with this difference only—that its narrow bars, passing through the grid, are distributed among the lines of the first image cast on the screen. Thus, the same screen shows the projection of two images arranged in the form of an opened fan, the spokes of which follow in strict alternation; that is, if the first spoke is an element of the image meant for the right eye, the second is for the left, the third for the right again and so on.

The stereoscopic screen is formed of a metal framework weighing six tons. Over this thirty thousand copper wires of a total length of a hundred and fifty kilometres (about 93 miles) are drawn, forming a "perspective grille."

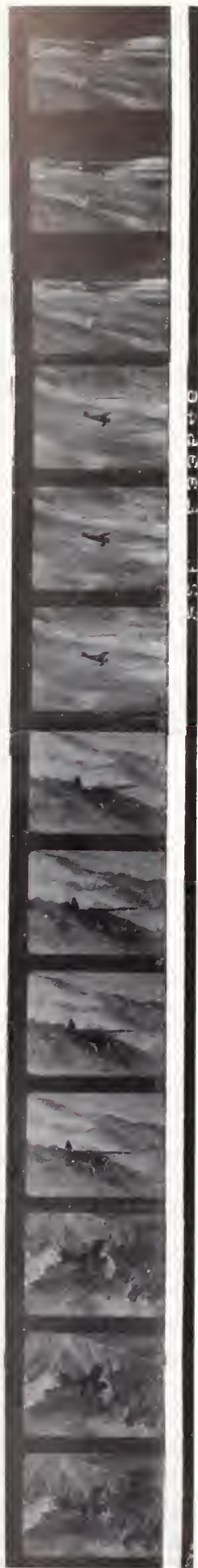
The wires are so fine and so close that they cannot be distinguished one from the other at a distance of ten metres (about 33 ft.) They are, of course, fitted with the greatest mathematical precision, to the hundredth part of a millimetre.

One drawback of this first stereo-cinema is that each spectator has to find his own viewpoint and stick to it; a movement to right or left, a bend of the head, and the image is lost for the moment. We have already worked out, in theory, a method of getting rid of this defect, and at present we are working on the practical application of this second system.

A stereo-screen has been set up in one of the big Russian cinemas, the "Moscow," where the first stereo-film, "Land of Youth," is now being shown. This is actually a screen concert in which the best of the Soviet musicians and singers take part. The performers can be seen before the screen, in the auditorium itself, and far back in the depths of the screen. Some sections of the film are in color. Some of the cinema studios of the U.S.S.R. have started work on the production of more of the new stereoscopic films. END.



Top: Camera with mirrors used in photographing stereo-films; center, "perspective grille" in place before theatre-screen; Inventor Ivanov (in gray suit) at left; bottom, close view of wires forming grille. On opposite page is reproduced a strip of stereo-film from "Land of Youth." Photos from Preslit.



Four Infra-red
night shots from
"The Bride
Came C.O.D."

Filming Infra-Red Night Effects In The Air

By ELMER G. DYER, A. S. C.

AERIAL cinematography has, I think, benefited even more than "production" camerawork from the introduction of today's infra-red sensitive emulsions. On the ground, infra-red seems to be pretty generally regarded as a one-purpose film, for making filtered exterior night-effects. But in the air, I've found modern intra-red emulsions suited to a surprisingly wide range of uses.

The first and most obvious of course is the job for which the film was intended—making filtered night-effects. But in addition, with proper lighting, filtering and exposure, infra-red films can be extremely useful in making heavily-corrected day-effects and sometimes in making normal effects under atmospheric and other conditions where they might otherwise be impossible.

In making aerial night-effect scenes you do not, of course, have to face the problem of facial rendition as you do in ordinary infra-red camerawork on the ground. But you have a rather similar problem in that you have to foresee what your film and filters are going to do to the coloring of the plane or planes shown. For example, a director or producer might easily make the mistake of choosing a pretty red plane for his air sequence. That is all right if only moderately-filtered day-effect shots are wanted; but if there are to be aerial night-effects, that color-scheme is *out*! For unless the entire sequence is played as filtered night-effects (and the intimate process-shots made accordingly) on the screen you can easily get the effect that the actors take off in a dark-toned plane which suddenly turns white as night falls!

My own experience in making many of these shots on all three types of modern infra-red negative is that wherever possible a white or silver-colored plane, preferably an unpainted all-metal one like most airliners, is the most satisfactory, for this silvery finish will always photograph the same regardless of the film and filtering used. Under some circumstances a cream-colored ship may also be satisfactory, and if the aerial cinematographer is willing to be a bit conservative in his filtering a light yellow paint-job like those often seen on small private sport-planes may also be acceptable.

If there is to be any distinguishing contrasting marking on the plane, this

should be taken into consideration, and the cinematographer should make sure that it will show up as desired under both unfiltered conditions with ordinary film and under the heaviest correction used with the infra-stock.

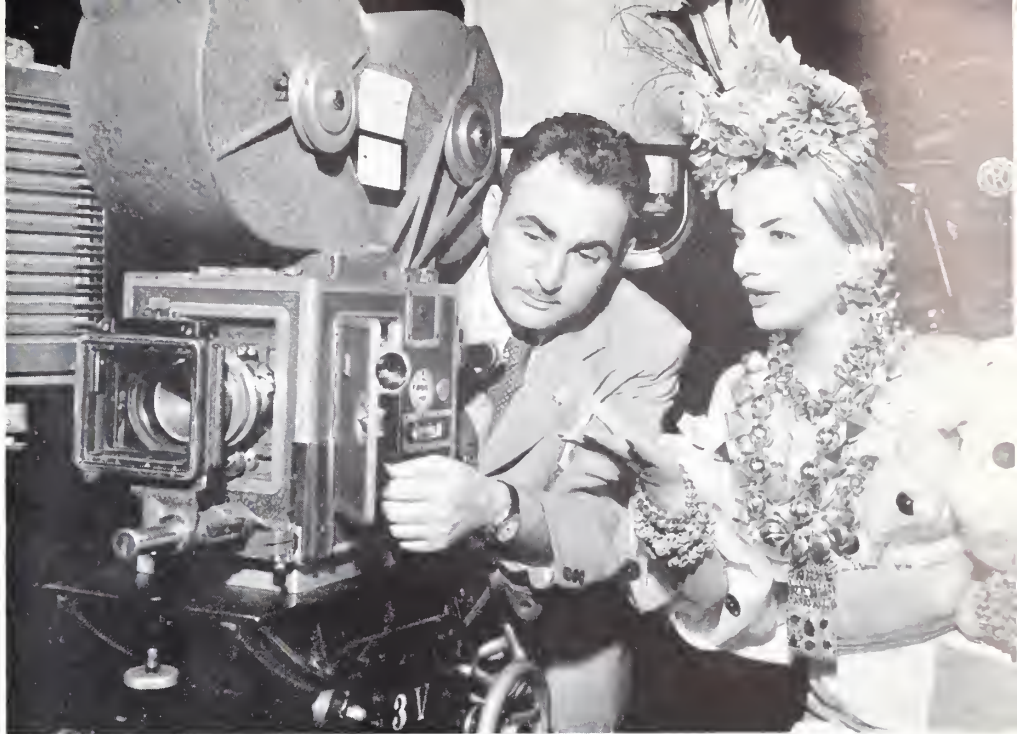
Illuminating the cabins, flying-lights, etc., for filtered night-effect shots is not so much of a problem now, since the speeds of all infra-red stocks have been increased. In the early days of infra-red, though, this was something of a problem, since it usually meant installing very special lights and the batteries necessary to feed them—which introduced a matter of weight which might well be a serious problem in scenes involving light private planes.

However in some recent infra-red night sequences I have made—especially those just completed for Warner Bros. "The Bride Came C.O.D."—using Eastman "Pan-K," I've been surprised how well cabin lights, navigation-lights, etc., picked up with practically no special reinforcement.

When aerial night-effect sequences are to include shots made at a downward angle, the rendition of the terrain below becomes another important factor. For example, if a ship is to be shown flying over a forest, the tendency of most infra-red films to give an almost ghostly white rendition of the chlorophyll in foliage should be taken into consideration; in shots where a light-toned ship was to be shown against this background, there would in all probability be too little contrast to be satisfactory. In such an instance, you could take advantage of modern film improvements, however, and use DuPont's new "Infra-D" and its well-known dark rendition of foliage.

In making the many infra-red night-effect aerial shots for "The Bride Came C.O.D.," we had some rather interesting and unusual problems, as these shots were made in—or more correctly over—Death Valley, where the coloring of the ground and hillsides ranges from the jet-black of hardened lava to the white of the salt and borax deposits, with an incredible variety of pink, red, orange and yellow rock-formations thrown in for variety. An important night-effect sequence was one showing a plane "hedge-hopping" over these hills, having engine-trouble, and finally making a forced landing. In some of these shots

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Aces of the Camera

V:

LEON SHAMROY, A.S.C.

By WALTER BLANCHARD

DIRECTOR of Photography Leon Shamroy, A.S.C., is an engineer turned artist. More years ago than he cares to be reminded of, a vacation job in one of the early studios changed him permanently from an engineering student to an aspiring camera assistant. Turning to the camera with enthusiasm and with the true engineer's instinct for precision he began the climb which has since made him one of the industry's outstanding masters of the camera.

Despite his change of professions, the engineer's viewpoint still remains, for he combines the sensitive feeling of the artist with the accuracy of the bridge-builder he might have been. Regardless of subject-matter, or whether the picture is in monochrome or color, Shamroy's photography is above all characterized by an underlying technical precision and brilliance which bespeak the methodical mind of the engineer.

To him, there can be but one right approach to any scene—but one really correct photographic treatment. Each technical trick in the cinematographer's repertoire is valuable only as the man at the camera knows how to use it in its precisely right place.

"We're fond of saying that cinematography is both an Art and a Science," he points out. "It is. But in some ways, the two aren't so very different, for in either Art or Science a workmanlike performance means having each element in its exactly right use and place. A good engineer wouldn't put a bridge-girder into an airplane wing just because it happened to be handy; in the same way an artist, whether he uses a brush or a camera, wouldn't put a highlight here and a shadow there just because he felt like it: he'd put them there because they belonged in that relation and couldn't go any other way.

"That's the way I try to approach cinematography. I think most of us nowadays realize the importance of this kind of accuracy about details of lighting, composition, camera-movement, and so on. But it is even more true of other phototechnical details. Take the new coated lenses, for instance. Technically they're a tremendous improvement. They give added speed together with a brilliance, snap, increased depth and shadow-detail which are, generally speaking, very desirable characteristics.

"But there are times, too, when these qualities would be badly out of place in

a picture. It's easy to imagine some types of dramatic scenes where, in order to stress the mood of sombre drama or mystery, you might find it best to go deliberately out of your way to avoid the literalness of a coated lens' image—perhaps using older, uncoated lenses, or accentuating the diffusion, as might be desirable to fit the mood of the particular scene in hand.

"Don't forget, too, that styles in cinematography change just as much as styles in clothes or anything else. They tend to move in cycles, too. Right now we're emerging from a period when diffusion and overall softness—optical and tonal—have been the accepted style, and crispness and extreme depth of field are coming into vogue.

"This is desirable all right. But to me it is simply the turning of the cycle. It really wasn't so many years ago that to be good cinematography everything in the scene *had* to be sharp. That was back in the days when our best lenses were f:3.5 Dagors and Tessars—critically sharp-cutting anastigmats—and film and laboratory-work tended to strong contrasts, too.

"This was over-done, and faster, softer lenses—many of them less perfectly corrected—came in. Softer, panchromatic emulsions came in; the softer Mazda light was developed to take the place of the old hard arc light. Film was processed to softer standards. And this, too, was over-done.

"So what are we doing today? We have fast lenses, and we're stopping them down to apertures of f:3.5 and smaller, to gain depth and definition. We're applying coatings that sharpen up the image by removing internal glare and reflections. Our laboratories are learning to put more snap and vigor into their processing. Cinematographers

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Top, left to right: First Award, Portrait, Emmett Schoenbaum; Best Portrait, two or more people, Jack Woods; Best Action Portrait, Ray Jones. Middle Row: Best Production Still, Will Walling; Best Fashion Still, Scotty Wellbourne; Best Action Still, Ed Cronenweth. Bottom row: Best Novelty Shot, Ray Jones; Second Award, Fashion, Frank Powolny; Second Award, Action Stills, Bert Six.



Academy "Oscarettes" for Studio Still Men

FOR the first time in the history of the motion picture industry tribute has been paid to the skill and artistry of studio still photographers. At the opening of the First Annual Exhibit of the Artistry of Motion Picture Still Cameramen, sponsored by the Academy of Motion Picture Arts and Sciences, Miniature Academy Awards in the form of gold medals and certificates of merit were awarded to the fourteen still men judged to have produced the outstanding pictures in the eight classifications of the exhibit.

Ray Jones of Universal Studio was the winner of two first-place gold medals, while Elmer Fryer of Warner Bros. similarly won two certificates of merit as photographer of second-place entry in two classifications.

Emmett Schoenbaum of 20th Century-Fox received the First Award for the best posed portrait-study. The winning print was a gallery portrait of John Carradine in character for his role in "Chad Hanna." While somewhat conventionally composed, it is an eye-arresting piece of work due to the excellent placement of the subject's face, excellent modelling and of course to actor Carradine's facial cooperation.

Ray Jones, of Universal, received one of his two medals for making the best action portrait, with Marlene Dietrich as the subject. While it, too, gives to the expert the impression of having been made in the studio portrait-gallery, it is really excellent in composition and lighting and breathes a delightful spirit of spring-like youth and charm.

The medal for the best posed portrait of two or more people was won by Jack Woods, of 20th Century-Fox with an unusual shot of Dean Jagger and Mary Astor in "Brigham Young—Frontiersman." Utilizing as it does a crude pioneer buck-saw as a framing element in its composition, this picture is an unusual combination of curved and straight-line composition, all the more so in that its strongest design-elements run rather unconventionally from right to left on

an upward diagonal. Yet for all its unconventionality, this arrangement serves the basic function of composition in leading the eye unerringly to the two subjects.

Honors for the best posed production-still went to ex-actor William Walling, of Universal, for a striking still of Marlene Dietrich and Bruce Cabot in a scene from "Flame of New Orleans." From the photographic and pictorial standpoints this print well deserves its high rating. However, from the standpoint of actual production still-work the criticism may be raised that lighting and composition tend unduly to subordinate the man's figure silhouetted in the foreground to the woman's figure in the middle-distance, which receives the benefit of both placement and lighting.

Medal for the best action production-still (exterior) went to Merritt Sibbald of MGM for his shot of the skiing scene from "The Mortal Storm." While this is a beautifully executed example of exterior photography, this writer at least would question whether it should be considered as an action-still or not, since the human element is so strongly subordinated to the landscape.

Breathing vivid action of quite a different kind, a speed-flash shot of Judy Garland and Mickey Rooney "jitterbugging" in a number from "Strike Up the Band" won for Ed Cronenweth of MGM first place among the action stills (any kind). In a shot of this nature the accepted rules of composition, lighting and photographic quality are all too often subordinated to pure action: but in this shot Cronenweth has preserved them to a surprising extent. The position and placement of the figures—undoubtedly aided by judicious cropping in making the print—are compositionally good for a shot of this type, though a little more room on the right would make the frame

seem less crowded. The lighting, considering this is almost certainly a multi-flash speed shot, is more than ordinarily good, and the photographic values—tonal rendition, definition, and the like—are excellent.

First Award for the best Fashion still went to Charles Scott ("Scotty") Wellbourne of Warner Bros. for a still of Brenda Marshall. A typical fashion-still, this print shows excellent composition and lighting, with a high degree of the definition and texture-value so vital to this type of picture.

Medal-winner in the novelty still class was an outdoor portrait of Deanna Durbin which deservedly brought Ray Jones of Universal his second medal. Photographically and artistically excellent, this picture embodies a unique combination of compositional novelty with charm.

Among the second-place winners were Ed Estabrook, of Universal, runner up in the posed portrait class with a big-head portrait of Baby Sandy which captures the subject's personality with excellent photographic and compositional quality—no easy trick in a picture which may be judged logically a flash shot.

Roman Freulich, also of Universal, received second place in the action portrait class with an interesting low-angle shot of Deanna Durbin striding energetically across a corral in cowgirl regalia—an excellent example of skilled work in this difficult field.

Second place in the posed portrait of two or more people went to Thomas Evans, of the Roach Studio, for a big-head two-shot of Carol Landis and John Hubbard. Handling two people in an angle as close as this is difficult, and Evans' composition and lighting under the circumstances are most commendable.

Robert Coburn won the second prize in the posed production-still class with his picture of the choir scene from Sol Lesser's "Our Town."

To Elmer Fryer, of Warner Bros., went the second prize in the exterior

Above, left, Best Action Production Still, Merritt Sibbald; Center, Second Award, Action Production Still, Elmer Fryer; Right, Second Award, Production Still, Elmer Fryer.

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Jackman New A.S.C. President

FRED W. JACKMAN was elected President of the American Society of Cinematographers at the Society's annual election of officers, held early in April. At the same time Arthur Edson was chosen First Vice-President; George J. Folsey, Jr., Second Vice-President; Leonard Smith, Third Vice-President, and Alfred L. Gilks was re-elected Secretary-Treasurer. The Society's Board of Governors for the coming year consists of Past-President John Arnold, George S. Barnes, Charles G. Clarke, Robert de Grasse, Arthur Edson, George Folsey, A. L. Gilks, Byron Haskin, Fred W. Jackman, Ray June, Charles Rosher, Leonard Smith, Gregg Toland, Joseph Valentine and Joseph Walker. Of these Barnes, Haskin, Smith and Toland are new members.

The new President succeeds John Ar-

nold, who retires from office after a decade in the Presidency broken only by a nineteen-month period in which Victor Milner held the Chief Office. While relinquishing the chair due to the strenuous demands made on his time and energy by his professional duties as Chief of the Metro-Goldwyn-Mayer Camera Department and his activities as an officer of the Academy of Motion Picture Arts and Sciences, Arnold remains active in A.S.C. affairs and a member of the Board of Governors.

By a strange coincidence Jackman, the newly-elected twelfth President of the Society, takes office twenty years to the month from the time in 1921 when he became the Society's second presiding officer, a post he held for two successive terms, retiring in 1923. During the intervening years he has continued active

in A.S.C. affairs, serving continuously on the Board of Governors, as Treasurer, as a member of the Executive Committee, and in many other important capacities.

In taking office, President Jackman looked momentarily back to his earlier term of office two decades ago. "There were plenty of times during those precarious early years," he remarked, "when it seemed absolutely impossible that the A.S.C. could possibly go on—much less grow. But it did! It prospered and grew even though during the years between then and now there have been disappointments and set-backs, as well as successes. But from its inception nearly twenty-three years ago, the American Society of Cinematographers has been composed of and guided by men inspired by a sincere belief in the ideal that cinematography was not just a skilled trade but a profession—men who had an unconquerable faith in cameramen, in their position in the industry, and in the A.S.C. as a means of advancing the interests of the camera profession.

"That faith has been rewarded generously. Today we see the cameraman of yesteryear recognized as the Director of Photography of today, and the American Society of Cinematographers recognized as the world's foremost cinematographic organization—the technical and economic representative of the men who have been repeatedly termed the 'Camera Masters of the World'. I am confident that this same faith in cinematographers, in their future and in their organization, can carry us through whatever may come in the future. There are and will be many problems, but the confidence and loyalty that has built the A.S.C. and sustained it all these years can carry it onward through anything the future may offer.

"My policy for the Society's immediate future may be expressed very simply: to consolidate the many gains the A.S.C. has made up to date, and to add to that a program of increased activity in every way for the members.

"During the year or so immediately past, a major part of the activities of the Society and its officers has necessarily had to be concentrated on matters relating to the economic interest of the members, to the curtailment of the usual social, professional and technical activities of the organization. These business activities will of course be carried on by the Board and Officers as diligently as in the past, but in addition I intend to inaugurate a renewed program of social and technical activities by and for the membership at large. The Society was founded and built because there existed a need for closer contact between the industry's cinematographers for social fellowship, technical and professional interchange of ideas, and collective research and study of the technical and artistic problems of cinematography.

"That need still exists, if anything, in increased measure. The constantly in-

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HOLLYWOOD'S FIRST ART DIRECTOR

By JACK GRANT

WHEN the Society of Motion Picture Art Directors honored Wilfred Buckland at a testimonial dinner last month, respects were paid him not only as the industry's first art director, but as the man who played more than a small part in the introduction of artificial lighting in motion picture production. It has always seemed a paradox that movies were first attracted to Hollywood because of its much vaunted "perpetual sunshine," then promptly built huge indoor stages to carry on the business of making films for the world. It is not quite such a paradox now that the story of an almost forgotten pioneer is revealed.

Entirely by chance the testimonial sponsored by the society of art directors was held on the night of Buckland's 75th birthday. Participating in the affair were large groups from the Society of Motion Picture Interior Decorators, the Society of Artists and Illustrators, and the Screen Set Designers Guild. A total of 244 men turned out for the dinner at the Hollywood Athletic Club, and surrounding Buckland at the speakers' table were Jesse L. Lasky, William DeMille, Donald Crisp and other remembered figures of Hollywood's earliest days.

Lasky and all the others paid their tributes to Buckland, but it was not until the 75-year-old veteran spoke that a pattern to his influence on motion picture production as we know it today was made clear. The story he told about himself he has never seen fit to mention before.

In 1913, Buckland was a successful producing manager in New York. As part of the firm of Tully and Buckland, he had a hit on Broadway, "Omar, the Tentmaker," then finishing out a prosperous season. He had heard about the "movies," but saw no future for the nickelodeon "flickers." These one and

two reel films were a fad, and while the few five-reel pictures from France and Italy had a vestige of promise, these were probably too expensive to be profitable in the entertainment field. As an experienced theatrical man, he regarded movies as an upstart and no competition whatsoever to the theatre.

About this time, Buckland happened to meet an old friend, Mrs. Bebee DeMille, mother of William and Cecil whom he had known as children. She told him that Cecil was about to embark on a new venture. He was going west to direct pictures for the Jesse L. Lasky Feature Play company, and Lasky had announced a program of successful stage plays that were to be made as five-reel features, exclusively. This was an innovation in those days, yet Buckland's full interest was not aroused until he was informed that Lasky had obtained motion picture rights to all of David Belasco's stage plays.

He had reason to be interested. For

twelve years, Buckland had served as Belasco's supervising artist in charge of production. He had been at the master's side during the staging of the most glamorous and important shows of the era. He had helped make theatrical history, was completely familiar with the intricate details of the Belasco productions. No wonder he was intrigued with the proposal of translating these plays to the screen.

Early in 1914, the Lasky studio was established in Hollywood with Cecil B. DeMille directing the Belasco properties. Buckland soon joined the pioneer group and was astounded by what he found to be their methods.

The "studio" was simply a barn at the corner of Vine Street and Selma Avenue. Around it was a lemon grove, and the "stage" consisted of an open-air platform—like a dance floor—about two feet high and seventy-five feet wide. At one end was a ship's mast with a boom upon which a sail could be rigged. This was swung back and forth to keep the direct rays of the sun from the scene being photographed. They were "improving" this arrangement by installing overhead muslin diffusers which could be drawn across the stage.

But photography was done entirely by daylight.

Cameramen could not hope to obtain more than flat, uninteresting effects under such conditions.

The settings were equally uninspired. On the back of an envelope or other bit

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Above, Lasky Studio in 1913, when Buckland came to Hollywood; note open-air stage. Below, production still from "The Squaw Man," 1913; note painted "flats."

Mate' Tops Preview Poll

Rudy Maté, A.S.C., in an extremely close contest, captured First Place in the Cinematography classification of the Hollywood Reporter's Critics' Preview Poll for March, the winning achievement being his outstanding photographic treatment of "That Hamilton Woman!" Second place by but a scant handful of ballots went to Leo Tover, A.S.C., and his associates Farciot Edouart, A.S.C., Gordon Jennings, A.S.C., and Elmer Dyer, A.S.C., for "I Wanted Wings." In third position, again by an unusually narrow margin, was George Barnes, A.S.C., for "Meet John Doe."

April seems to be anniversary month among the A.S.C. Over at Paramount, Ted Sparkuhl, A.S.C., celebrated his thirtieth anniversary as a cinematographer by starting "Buy Me That Town." He entered the business as a cameraman in Paris in 1911. And out at 20th Century-Fox, Camera Chief Daniel B. Clark, A.S.C., celebrated his twenty-first anniversary in the business. With the exception of less than half-a-dozen pictures lensed for other studios, Dan has spent all his twenty-one years with a single organization—20th-Fox and its predecessor, Fox Films, in the process setting a record for the number of consecutive pictures made with one star: he filmed 85 in a row with the late Tom Mix. From Assistant Cameraman to Supervisor of Photography in 21 years isn't a bad record—and when Dan entered pictures in 1920 he was doubtful because he didn't think it looked permanent—!

Back in Washington, D. C., our staff correspondent, Reed N. Haythorne, A.S.C., has transferred his activities to the U. S. Forest Service, for which he is starting a transcontinental camera-trek shortly.

Spotted Al Gilks, A.S.C., looking at an SVE Picturol projector at Winter's camera store. He says he wants it to analyze his light-tests with the way Clyde De Vinna, A.S.C., and Joe Ruttenberg, A.S.C., described last month.

Another milestone is the assignment of Arthur Miller, A.S.C., to direct the photography of 20th Century-Fox's "How Green Was My Valley." They say it's his 100th feature picture.

Phil Tannura, A.S.C., swings over from Columbia's "Tillie the Toiler" to take charge of photography on Gregory Ratoff's "Tonight Belongs to Us." Henry Freulich, A.S.C., takes over the "Tillie" assignment in "Little Phil's" absence.

And George Barnes, A.S.C., bows gracefully out of Korda's "Illusions" to

A.S.C. on Parade

take over "Ladies In Retirement," and at the last report was due to be succeeded on the Korda assignment by Lee Garmes, A.S.C.

Defense note: currently lensing Army training films are Paul Vogel, A.S.C., making an Infantry training film at M-G-M; Archie Stout, A.S.C., filming the operation of the 240mm. howitzer at Paramount; and James C. Van Trees, A.S.C., off to Sun Valley for Col. Zanuck's studio, making a film on skiing.

James Wong Howe, A.S.C., finished "Gentle People" and draws the assignment to "King's Row," both for Warner Bros.

And Victor Milner, A.S.C., just through with "My Life With Caroline" at RKO, climbs the fence to his old home lot—Paramount—to Technicolor "Reap the Wild Wind" for Cecil de Mille.



Art Lloyd, A.S.C., finally came through with that picture of "Butch"—and here's the explanation. "Butch" is Art's pet Mexican parakeet—and it appears "Butch" envies the long-tailed birds in the Lloyd aviary. But "Butch" is a practical little bird: he cuts himself out false tail-feathers of paper, and sticks them in place over his own short ones, as you see him doing in the picture. Art has made two short-subjects about "Butch," one sold and the other optioned to Lew "Monkeys is the Cwaziest people" Lehr.

There's an epidemic of new contracts at 20th Century-Fox: Lucien Andriot, A.S.C., Harry Jackson, A.S.C., and now Glenn MacWilliams, A.S.C., have all inked new dotted lines.

John F. Seitz, A.S.C., at Paramount to direct the photography of Preston Sturges' "Sullivan's Travels."

Franz Planer, A.S.C., taking a post-graduate course in collegiate Americana, photographing Columbia's "Betty Co-Ed."

Did you know Roy Hunt, A.S.C., has built himself a super-streamlined land cruiser, interchangeably powered by a steam engine and a Mercury motor? Built everything but the wheels himself too. His pet short-wave radiophone is in it, and enroute to and from the studio he's worked every continent.

Oliver T. Marsh, A.S.C.

The camera profession suffered a tragic loss in the passing of Oliver T. Marsh, A.S.C., who died unexpectedly of a heart ailment May 5th, on the eve of his thirtieth anniversary as an active member of the photographic profession.

Although a veteran of motion pictures, Marsh was still a comparatively young man. Born in Kansas City in 1893, and brother of Mae Marsh, the famed silent-picture star of early days, Marsh entered the industry as a boy of 18 when in 1911 he joined the photographic staff of the old Biograph Studio in Fort Lee, N. J., with D. W. Griffith. He climbed rapidly to the top of the profession and remained there without interruption. From 1918 to 1924 he was associated with Robert Z. Leonard, photographing Mae Murray in all of her most famous successes. Since that time he has been continuously with Metro and the present Metro-Goldwyn-Mayer organization.

During the thirty years of his activity, Marsh's skill has lent glamor to an incredible procession of the screen's most famous beauties, from Lillian Gish and Blanche Sweet to Hedy LaMarr and Lana Turner. In 1938 he won the Academy Award for Outstanding Color Cinematography for his work on "Sweethearts," and at the time of his death he was preparing to undertake another Technicolor assignment, the musical remake of "Smilin' Through." Among other outstanding films on which he was Director of Photography may be mentioned both the silent and sound versions of "The Merry Widow," "Rain," "San Francisco," "David Copperfield," "Maytime," "A Tale of Two Cities," "The Firefly," "Rosalie," and innumerable others.

Quiet, unassuming, yet one of the world's truly great camera-artists, "Ollie" Marsh will be missed by all who knew him. To his friends, and to his wife and three children, we extend our heartfelt sympathy.

THROUGH the EDITOR'S FINDER

THE full story can't be told until the war is over—if even then—but the way the motion picture industry and the firms and individuals composing it are aiding the Defense Effort forms an epic we hope we may some day aid in telling. It deserves to be told, not only in justice to an industry which has had more than its share of public ridicule, but as a story of what would be outstanding achievement by any industry of individuals.

The activity of the producing end of the industry in turning out training films for the military services has already been told. What the manufacturers of materials and equipment are doing, turning their exquisitely-equipped plants and skilled staffs loose on exacting defense orders of all kinds is at least hinted by the fact that certain of our leading camera-manufacturers admit their plants are so busy on Uncle Sam's orders that they cannot guarantee camera deliveries for at least two years or more.

But in many ways it is the achievement of the individuals within the industry which forms the really significant tale—the one we most want to tell, but which obviously can't be told until the emergency is over. But there are rumors—fascinating ones—of what individual cine-technicians are doing as personal contributions to their country's security. Here we learn of a cinematographer who, between studio calls, has been perfecting a photographic method of stripping the veil from the most skillful camouflage. There, we hear hints of a sound engineer's privately turning his skill to the development of a revolutionary aircraft-detector and sound-ranging system. Then there are others who—but the list is long, distinguished, and confidential. Suffice it to say that when the full story of what the motion picture industry and its people are doing in this national emergency can be told, it will be a tale which will do more than anything in the industry's long and varied history to bring Hollywood and its people the understanding admiration of their fellow men.

THE achievement of Gregg Toland, A.S.C., in bringing to the screen Carson Welles' sensational "Citizen Kane" reviewed elsewhere in this issue. But we cannot avoid making further comment on some of the more significant aspects of that achievement here.

"Citizen Kane" will be imitated. It is bound to be. And because it may be thoughtlessly imitated, it is going to make trouble for some cinematographers, for their producers or directors are going to ask them to imitate Toland's radically new technique without realizing what went to build it. Unthinking producers and directors—the kind who

see a thing tonight in somebody else's picture and want it imitated tomorrow in their own, whether it fits there or not—are going to insist that this or that technical or artistic feature of "Citizen Kane" be imitated in their own pictures. But nine out of ten of them won't be willing to pay the price of an achievement like Toland's in time, equipment, money or cooperation.

They'll ask for imitations of Toland's so-called "pan-focus"—yet they'll be the first to object if the cinematographer asks for the arc-lamps, coated lenses and careful planning which made it possible. They'll ask for camera-angles and camera-movement as superbly integrated with the action as those they witnessed in "Citizen Kane." And they'll ask it of cinematographers who finished a picture tonight only to be handed a completed script of a film they'll start shooting tomorrow.

These producers can't realize—even if perhaps in some instances their directors can—that "Citizen Kane" isn't a milepost in cine technique merely because of what happened on the set. Toland's contribution only came to fruition there: it began far earlier, for he was a dominant factor for a dozen or more weeks before shooting started, coordinating script, sets, costumes, etc., to say nothing of planned action, with the camera's vision.

In a word, we feel that "Citizen Kane" is a startlingly great production largely because it is one of the first, if not literally the first in which a producer has made complete use of the skill and experience his Director of Photography had to offer. That Gregg Toland is today one of the foremost members of the camera profession is beside the point: his achievements may be great, but he has had the opportunity to show just how much beyond mere photographic recording he can give a production.

In every studio today there are men who can give to any production proportionately as much as Toland gave to "Citizen Kane"—if they are given the chance. Men with ideas—practical ones, hard-bought from experience—of what a camera can do in telling a story forcefully, of making small sets seem large, of making pictured action seem more than ordinarily real. Men who would be eager to contribute those ideas if they had a chance to do so before script and plans had jelled. Men who would jump at a chance to offer this fuller contribution to the productions they photograph, even if it meant making fewer pictures per year, working fewer profitable weeks.

The industry needs better pictures—pictures that are more interestingly told, more efficiently made. In view of this need, with such a vast reservoir of new and practical artistic, dramatic, tech-

nical and production ideas to draw upon, WHY DOESN'T THE INDUSTRY UTILIZE THESE MEN, THEIR SKILL, AND THEIR BRAIN-POWER TO THE FULL—?

LOS ANGELES newspaperman was recently assigned to make a survey to determine what type of picturemaking the amateurs in this territory prefer. Included in his report was mention of an afternoon spent at the beach, during which he counted 37 cine-cameras—and not a single still-camera!

Reports from such vacation centers as the National Parks, while not so overwhelmingly favorable to the movie-making percentage, also indicate that the hobby is numerically on the gain. And why not? The average amateur makes his pictures as a record of his trips and especially of his loved ones—and the moviemaker can paraphrase the remark of Anita Loos' celebrated blonde and say, "A still picture in an album may look nice, but a movie lives forever!"

ALL of us who have dropped in to visit Ted Tetzlaff, A.S.C., directing his first picture, have been delighted at the effortless ease with which he's taken to a job which so often, in new and old hands alike, brings displays of nerves and temperament. We've frequently heard it remarked that Tetzlaff was directing as though he'd been doing it for years.

Well—hasn't he? He's been a Director of Photography for many more years than his boyish smile would indicate—and as we've often pointed out, an important, if unpublicized part of the average Director of Photography's job is all too often "carrying" a director—keeping him straight on the finer points of picture-making, unofficially co-directing the picture. Tetzlaff, as a full-fledged Director, is simply doing what he has done so often before, but without the need for dividing his attention between direction and photography.

There are men like Ted Tetzlaff in every studio—men who, placed at the helm of their own productions would answer the industry's need for better and more efficient production. Why not give them a chance?

ON the official credits of Paramount's "Reaching for the Sun" it's nice to see Dewey Wrigley, A.S.C., given official credit as Second Unit Cinematographer. All too often we've seen pictures win important photographic honors on the strength of some unsung second-unit cinematographer's achievements. If we must have second units, let's give credit where credit's due.

PHOTOGRAPHY OF THE MONTH

CITIZEN KANE

Mercury Production; RKO-Radio Release.
Director of Photography: Gregg Toland,
A.S.C.

Special Effects: Vernon L. Walker,
A.S.C.

The easiest way to review this, the long-awaited Orson Welles production, would be with the simple statement that anyone who has the slightest interest in the advancement of motion pictures must see it. Without doubt, "Citizen Kane" is the most significant film of this year, and probably of the last ten or twenty. In this reviewer's opinion it takes unquestionable rank among the small handful of films which have imperishably left their mark on the technique of cinematographic story-telling—films among which "The Birth of a Nation," "Intolerance," "The Last Laugh," "Variety," "The Jazz Singer," and now "Citizen Kane" are outstanding mileposts in cinema history. It is the first production in which dialog, sound, music and true motion picture technique are welded together to form a genuinely complete unity.

From the photographic viewpoint, the achievement of Director of Photography Toland is revolutionary. Gregg Toland has brought many great pictures to the screen, but inevitably he will be best remembered as the man who put "Citizen Kane" on celluloid. His technique is utterly new and daring, yet based on soundly familiar phototechnical principles. Moreover, nothing that he does—sensational though it may be—is done for its own sake, but because it makes the picture's primary task of story-telling more effective or more simple.

For example, consider the revolutionary way in which Toland has maintained a tremendous depth of field. It is based on the familiar photographic principle that as you stop down a lens, you obtain greater depth, and that this depth increases as the focal length of the lens decreases. Accordingly, he has (as explained in his article in the February issue of this magazine) made extensive use of 24mm. lenses, stopped down to apertures of f:8, f:11 and even f:16, utilizing, too, such modern technical refinements as coated lenses, Super-XX negative and arc lighting, without which "Citizen Kane" could probably never have been made.

The result on the screen is in itself little short of revolutionary: the conventional narrow plane of acceptable focus is eliminated, and in its place is a picture closely approximating what the eye sees—virtually unlimited depth of field, ranging often from a big-head close-up at one side of the frame, perhaps only inches from the lens, to background action twenty, thirty, fifty or even a hundred feet away, all critically sharp. The result is realism in a new dimension: we forget we are looking at a picture, and

feel the living, breathing presence of the characters.

But there is more to this technique than merely obtaining depth for its own sake. It also simplifies the visual presentation of the action. Repeatedly action is shown this way, in a single shot, which with conventional treatment would have required either a succession of cuts from foreground-action to background or middle-ground action and back and forth, or a time—and footage-wasting dolly or boom shot. Because of this technique, "Citizen Kane" has fewer direct cuts than could otherwise be possible, and each shot tells more of the story—and tells it more vividly—than could be possible with conventional technique.

In the same way, Toland's use of the moving camera is generally masterful. With perhaps one or two exceptions, when camera-movement is employed, it is executed so perfectly, integrated so completely into the dramatic action of the scene, that we are unconscious of it. As a matter of fact, but one or two exceptions come to mind. First is in the opening shot, in which the camera's movement past the gates of the Kane estate, through the grounds, up to the castle and finally into the bedroom of the dying magnate, seems a trifle long and indecisive. The other is in the approach to the night-club where Kane's second ex-wife is singing. This, moving up on a miniature set, to and through an electric sign bearing her name, and down and through a skylight to show the woman at her table, is a bit too conventional to match well with the rest of the production; and it certainly should not have been repeated the second time, as it was.

The use of camera-angles—especially extremely low ones, with the camera shooting up at the players—is another forceful part of "Citizen Kane's" camera-technique. Yet you are seldom conscious of camera-angles *per se*, they are so intelligently and effectively used.

Toland's lighting is masterful—and fully as unconventional as the rest of the film. It is not the usual "movie lighting" at all. Under the circumstances, it could not be. With a very few exceptions, the sets are all equipped with extremely low ceilings, and they are for the most part incredibly deep. Such sets could not be lighted conventionally. They had to be illuminated almost exclusively from lamps placed on the stage-floor, and due to the depth of the sets and the high illumination-levels necessitated by the reduced lens-apertures used, extremely extensive use was made of arc lamps, both floodlighting and projecting units, for only arcs have the intensity and the penetrating power for such a job. It is not too much to say that "Citizen Kane" could not have been made without modern arc lighting.

This style of lighting lends a definite note of reality to the production, one which could not have been obtained had more conventional lightings been possible. Yet with a single exception, even under these handicaps Toland's source-lighting technique is flawless.

His personal lightings, too, are excellent—and often unconventional. Frequently he makes highly effective use of shadows. This is perhaps most noticeable in his treatment of the star, Orson Welles. Repeatedly there will be scenes in which Welles appears with one, two, or three of the supporting players. It is Welles' scene, dramatically, yet the supporting players may be most favorably lit, while Welles' face is in deep shadow. This is perhaps most noticeable in the sequence in which Welles' wife and his political rival force a show-down in the apartment of his blonde protege. Throughout the sequence, Welles' is almost constantly in the shadow—yet because of that lighting, he dominates the action.

Too much cannot be said, either, of the skill of Art Director Perry Ferguson who designed the production's 110 sets. After viewing "Citizen Kane," you can hardly believe that so many sets, so many of them large and varied, could possibly have been built for the \$60,000 understood to have been spent. But analyzing it, you see repeated instances where the skill of Ferguson and Toland complemented each other, making actually small, inexpensive sets and set-pieces give the effect of huge, costly sets. An excellent example of this is in the grand salon of Kane's castle, 'Xanadu,' in which a massive fireplace on one side, a massive staircase on the other, and a couple of massive pieces of furniture—a huge table and a chair—give the impression of a vast room. Too many Art Directors have forgotten the possibilities of this kind of suggestion—if they ever knew them—and, faced with a similar problem, would have attempted to build the room completely, a course which would not only consume a huge slice of the set-budget, but would also force a less effective presentation on the screen.

In this connection, too, the contribution of recording engineers Bailev Fesler and James G. Stewart must be mentioned. Their work was excellent throughout, and in this sequence they added strongly to the visual impression by introducing artificial reverberation into their recording, suggesting the impression heard in a huge, bare room.

Infinitely more can be and should be said about "Citizen Kane's" other aspects, but space does not permit. Tribute should, however, be paid to Orson Welles' brilliant direction, so completely coordinated with Toland's contributions, and to the uncommonly convincing portrayals of the "Mercury Play-

ers." Make-up Artist Maurice Seiderman deserves a world of credit for his skill in ageing virtually all of the principals, especially Welles, whose role takes him from the ages of 25 to 80—and at all times convincingly. The musical score of Bernard Herrmann is another outstanding note in "Citizen Kane's" perfection. But no one review can do a production like "Citizen Kane" justice. Instead, we can only urge every reader to see the picture for himself—better, to see it at least twice, once for its dramatic effect, and a second time to analyze its superb technique. That's what we're going to do ourselves!

THE FLAME OF NEW ORLEANS

Universal Production.

Director of Photography: **Rudy Maté, A.S.C.**

Rudy Maté, A.S.C., again turns in a notable job of intensely pictorial camerawork in "The Flame of New Orleans." Cast in an entirely different dramatic mood from his previous superb release, "That Hamilton Woman!", the present film none the less offers much pictorially. For one thing, he has as his star Marlene Dietrich, who knows so well how to cooperate with her Director of Photography. For another, he has as his co-worker the brilliant and camera-wise René Clair, whose first American-made production this is. The result could hardly help being visually interesting.

Maté's treatment of Marlene Dietrich is, as might be anticipated, virtually flawless and eminently pictorial. The lightings this lady requires are simple and direct, but there are many other little details which can make or break her screen appearance. Maté does well by her throughout, and repeatedly achieves both close-ups and longer shots of her which are thrillingly beautiful. Yet they are so excellently used in the film that they do not interfere with the flow of the story, as has sometimes been the case in this star's films.

"The Flame of New Orleans" is richly atmospheric visually, thanks to the combination of Maté and director René Clair. It is in many ways an intriguing blend of strictly American production ideas with the technique Clair made so distinctive in his foreign—and particularly his French-made—productions. There is the same suppression of background detail on both interior and exterior scenes—the grayed backgrounds against which a strongly contrasted foreground action makes an interesting pictorial accent—and the smooth cutting that characterizes Clair's style. It is a film well worth seeing from the technical viewpoint—and entertaining, besides.

POWER DIVE

Paramount Production.

Director of Photography: **John Alton, A.S.C.**

Almost exactly a week from the day Paramount previewed their super-spectacle of aviation, "I Wanted Wings," they previewed this little program picture

produced for them by independent producers Bill Thomas and Bill Pine. The entire production of "Power Dive" probably cost less than the single item of airplane rental on the other film; we understand its complete cost was \$78,000 and it was filmed in 10 days. But its two young producers got their money's worth in every way. "Power Dive" is better-than-program-picture entertainment—and the artistry and skill of Director of Photography Alton have given them a production which certainly looks like a lot more expenditure in time and money than could possibly have been the case. It's a quickie—but it has all the photographic quality of a major production.

Alton's treatment of his principals is excellent. His set-lightings are far more pictorial than we usually see on pictures made on any such schedule as this. His aerial shots are for the most part excellent. In a word, he has not only distinguished himself, but has set a mark for other men who photograph films of this class to shoot at—and envy.

Some of the process sequences (which were not, we understand, Alton's work) were by no means up to the quality of the rest of the production. There were, too, a few inserts which definitely damaged the picture; among these were two used as the plane went into its power-dive: these were obviously "phony," and should be removed, for they are sure to be greeted by gales of laughter from the air-wise youth in the audience. But in general, "Power Dive" is an incredible lot of picture for the time and money spent in its production—and a great credit to all concerned.

THE DEVIL AND MISS JONES

Frank Ross-Norman Krasna Production;
RKO-Radio Release.

Director of Photography: **Harry Stradling, A.S.C.**

Special Effects: **Vernon L. Walker, A.S.C.**

It was to be expected that the "pan-focus" technique of "Citizen Kane" would be imitated—but we hardly expected the first imitation to be in another RKO picture! This technique is used quite effectively, however, in the sequences laid in the mansion of millionaire Merrick. The imitators—of whom we feel cinematographer Stradling was one only by compulsion—overlook one important fact, however: Toland's technique was inherent to "Citizen Kane's" presentation; it was an integral part of the picture's cinematic conception. It was not a trick. Used as it is in "The Devil and Miss Jones," intercut with strictly conventional shots, it becomes merely a grandstand play, that adds little to the picture, and in fact at times detracts, as in the later sequence in the shoe-department stock-room where this treatment would have been particularly useful—and one wonders why it was not used.

For the rest, Stradling's own contributions to "The Devil and Miss Jones" are excellent. He has handled his people most capably—star Jean Arthur appears to particular advantage under his lens

—and he has given the picture a surprising degree of mood and atmosphere when the limitations of its keynoted comedy are considered. The many department-store interior sequences are, we rather suspect, particular tributes to Stradling's skill, for they are so extensive that it seems more than likely they were filmed in one of Los Angeles' actual stores, rather than in a studio, thereby making doubly exacting demands on the man in charge of cameras and lighting. Stradling has handled his work excellently.

The special-effects work of Vernon L. Walker, A.S.C., is particularly commendable. There is quite a bit of this, running the range from process-shots through matte-shots and miniatures, and the results are some of the best we've seen Walker put on the screen in some time.

ZIEGFELD GIRL

MGM Production.

Director of Photography: **Ray June, A.S.C.**

If ever a picture should have been in Technicolor, "Ziegfeld Girl" is that picture. Everything about it breathes color—the glamorous, inherently colorful milieu of the Ziegfeld Follies during their most fabulous days, and the private lives of the glamorized follies charmers. Yet Metro-Goldwyn-Mayer for some inconceivable reason chose to make this picture in monochrome, even though at the last minute they weakened to the extent of trying to dress it up in a suit of John Nickolaus' pet sepia toning, recognizing the need of color to the extent of this, and adding to it a pink tint in the musical sequences and "production numbers." But the result—as even Nick will admit—isn't color, and "Ziegfeld Girl" needed color.

It couldn't have been expense that held them back. If that had been it, they could easily have eliminated about five reels of Busby Berkeley "production numbers" and spent the difference on color. In fact, they should eliminate these numbers anyway, since they only interfere with the development of a well-written, well-acted and well-directed story.

For the rest, Director of Photography Ray June, A.S.C., has done his excellent best to offset the picture's need of color. He has given it a splendid mounting of the crisp black-and-white camerawork of which he is so perfectly a master. His camera-treatment makes the "follies" numbers as nearly colorful as they could possibly be in monochrome, especially the "Minnie from Trinidad" number.

June's treatment of the players is characteristically excellent. And where the action calls for it—as particularly in the concluding sequences leading up to Lana Turner's death—his camerawork and lighting build to excellent mood effects.

But "Ziegfeld Girl" should have been in color . . . !

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Correct exposure can make as much difference as filtering in shots like these.

BETTER WAYS TO Use Your Exposure Meter

By THEODOR SPARKUHL, A.S.C.

SOMEONE once remarked about flying that "it isn't the airplanes that are dangerous—it's the people who fly them." You might coin a very similar epigram about exposure-meters, too. Rightly used, the modern photoelectric exposure-meter can be one of the biggest aids to consistently better cinematography that either the professional or the amateur could want. Wrongly used, it can be a positive menace, for while the meter has a highly efficient electric eye, it has no brain. The user has to supply that.

One of the biggest sources of difficulty most amateurs (and some professionals) have with using a meter is that while the meter gives a very accurate interpretation of the exposure-value of what it "sees," it does not necessarily "see" the same thing that either the camera's lens or the cameraman's eye sees.

For example, the 1-inch lens normally used on 16mm. cameras (and the corresponding 12.5mm. lens used on the eights) covers a horizontal angle of about 20 degrees. But the meter's "eye" takes in a considerably wider expanse. The earlier Weston meters, for example (with the exception of the special "cine" models) view an angle of about 60 degrees; the "cine" models and the new

"Master" when its high-range baffle is in place, scan an angle of about 30 degrees. Even if you're not statistically minded you can figure out that the meter is likely to be reading on a lot of exposure-factors the camera won't be photographing!

To get around this, simply make sure your meter "sees" the same field of view your lens is photographing. If you use one of the newer, narrower-angled meters, come about one-third of the way from camera to subject to take your reading. With one of the older, wider-vision meters, you'd usually better come about half-way to the subject.

It isn't a bad idea at all, by the way, to scribe a center-line on the edge of your meter's case, right in line with the photocell, and then scribe side-lines indicating the meter's angle. With this as a guide, all you'll have to do is sight along the edge of the meter, and walk in until the scribed side-lines match the field you know your camera is photographing.

Another difficulty the meter faces is the fact that it often "sees" exposure-making factors that we deliberately want to ignore. For example, in an average long-shot there's often a pretty fair amount of sky. But the meter's "eye" is likely to "see" much more of that sky

than is actually in the picture. Accordingly it will give a misleadingly high reading, and you'll find your picture tends toward underexposure. The simplest way to avoid this is to make a little sunshade for your meter, using the palms and fingers of both hands folded over the edges of the meter-case, and then point the meter downward at about a 30-degree angle. This way it doesn't "see" so much of the sky, and gives a correct reading of the darker and less reflective parts of the subject—the parts you want correctly exposed.

Often, too, you'll be more interested in the parts of your subject that are in the shade than those in the sunlight. The meter will simply average up the two brightnesses, and give you a sort of compromise reading, trying to balance the exposure between them. This may be right when the sunlight and shade areas are of approximately equal area and importance; but it's all wrong when, as is often the case, the shadowed area is smaller but more important.

The remedy is to bring the meter still closer to the subject, so that it "sees" only, or at least principally, the shaded area which is the important part of your picture.

This is an especially good method in making close-ups of people. As a rule, the most pleasing lighting for close-ups is a cross-light, with half the face in sunlight, and half in shadow. But you want those shadows "open"—well exposed—not inky black areas. If you take your meter-reading from a position where the meter "sees" both areas, you're likely to lose the shadows. It is much the best idea to take your reading from an angle such that the meter scans *only* the shadow-area. The highlights, with most modern 16mm. and 8mm. films will take care of themselves.

Another type of shot where the meter's vision may prove faulty and misleading is in making extreme long-shot landscapes, especially if for good composition you've included a closer foreground, with or without figures. The meter will average the two up, and you'll get a badly overexposed shot if you make your picture according to the meter's reading.

But the meter-makers have taken excellent care of that for you. On the Weston meter's calculator-dial, for example, you'll notice several markings other than the "Normal" arrow usually used in making the reading. One of these is marked "A," and indicates $\frac{1}{2}$ -normal exposure. Use this instead of the regular arrow-point in setting the calculator for these extreme long-shot readings, and you'll get a much more satisfactory exposure.

As a matter of fact, in long-shots like these, correct exposure can do fully as much in bringing out distance, etc., as filtering. This is especially true in Kodachrome, where overexposure so quickly "washes out" the picture.

That calculator dial can do some other

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Frame enlargements from 16mm. film, showing no filter (left), medium-yellow filter (center) and heavy red filter (right) on panchromatic film.

PERHAPS the most common and irritating misconception about filters is the habit so many amateurs have of referring to them as a "2x," a "4x," and so on. Really there's no such animal! Those numbers simply refer to the number of times a normal, unfiltered exposure must be increased to maintain a normal exposure-level in the filtered scene. And this varies according to the film used.

A color-filter, you see, is simply a bit of colored glass or gelatin placed between the film and the subject. Being colored, it holds back light-rays of some colors—those of a color opposite or complementary to the color of the filter—and lets those of the same color as the filter pass through unhindered. Since the filter holds back part of the light making the picture, without adding anything to take its place, the light that gets through must either be allowed to work longer, by using a slower shutter-exposure, or a larger total of light must be admitted, by using a larger lens-opening, so that the film will still receive a normal total exposure.

Now, say the filter is a deep yellow one. This will almost completely stop the blue and ultra-violet rays from getting through to work on the film, but will let all the greens, yellows, oranges, reds, etc., go through almost normally. Now if the film in question is a modern panchromatic type, sensitive to all colors, that blue light which is diverted by the filter doesn't represent such a big slice of the total exposure-making light. But if the film is an ortho type, sensitive only to blue, green, yellow and possibly a little orange, that missing blue is a much bigger proportion of the total useful light. Therefore, the exposure in this case will have to be increased more, and the same filter which on the panchromatic film may be rated as a 2x filter can easily become an 8x on an ortho film!

The same distinction is true, though within narrower limits, according to differences in sensitivity between different types of panchromatic film. For example, the rather heavy red 25A filter as a factor of 5 when used on one rather highly red-sensitive 35mm. film (Agfa Ultra-Speed Pan) while on another less red-sensitive panchromatic film made by the same company (Surreme) the factor is 8, while the factors

Taking the Guesswork Out of Color Filtering

By A. L. GILKS, A.S.C.

may be entirely different for films of other manufacturers. So—know your film before you start talking filter-factors!

If you go into the average, well-stocked photographic dealer's store and ask him to show you some filters, you'll notice a bewildering variety of different types, of different makes and picturesquely differing colors. And each manufacturer has his own pet scheme of naming and numbering his filters. But you'll notice that all of them keep to a pretty definite range of four or five colors, though in many different shades or densities. In a modern store you'll always find yellow filters and red ones, and also usually orange ones. In some of the larger shops, you'll also see some very pretty green ones, and occasionally a blue one. So for the present, we might as well forget names, and consider only colors, for while performance may differ in detail, in principle one maker's light red filter will produce about the same results as another maker's light red one, regardless of names.

For all practical purposes, 99% of movie work—professional or amateur—can be done with two or three filters: a medium yellow one, a medium-red one, and an orange one.

The yellow filters produce the least spectacular effects. On panchromatic film they'll generally make an exterior shot more pleasing, giving the different colors

in a scene a more natural range of relative brightnesses in your black-and-white picture and toning the sky down a trifle so clouds stand out more normally.

The orange filters carry this on quite a bit more. They add snap and contrast to the scene, and darken blue skies, water, etc., quite perceptibly.

The red filters carry this correction to an extreme. They add a maximum of contrast, and—especially the deeper red ones—tend to turn blue skies, water, etc., almost black.

There's a very good rule to remember about using filters. Any filter will darken its complementary color, and lighten objects of its own or closely related colors. So to photograph blue as white, use a blue filter; to photograph it as black, use a red filter; to photograph yellow as white, use a yellow filter; as black, a blue filter. To photograph green as white, use a green filter; as black, a red filter; and to photograph red as white, use a red filter; as black, use a green filter.

All of this suggests interesting possibilities—some of them rather embarrassing. For example, there's the time-honored story of the girl in the red dress. In an interior scene, she made her exit through a door apparently wearing an almost black garment. In the exterior scene cut next to it, the same girl wearing the same dress walked out into the night—but the same red filter that

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I MAKE A DOCUMENTARY

By CHARLES W. HERBERT, A.S.C.

THERE is scarcely a serious amateur who has not wanted to produce a complete picture that will either win an award or the acclamation of his fellow cinemaddicts. Some conceive a production idea—light, dramatic or comic—and work on this basis which requires the cooperation of a cast of volunteer actors. As a rule this plan is usually worked out best by a camera club or similar organization. Then there are the sports enthusiasts who concentrate on hunting, fishing or other sports. The home-lover will invariably turn out a reel of his family, the baby or pets. Business devotees turn their talents towards their industry and quite often produce a film which not only satisfies their cinema cravings but at the same time fills an advertising need. Social problems, community activities, club work, educational and religious endeavors have all been the subject of serious amateur filming.

But the favorite subject among the millions who have 8mm., 16mm., or 35mm. cameras for pleasure is the travelogue type of reel. Round-the-world cruises, big-game hunts in Africa, mountain-climbing, scientific expeditions, dude ranch life and ordinary vacations have all been popular themes. Some of these require a lot of time and money and can hardly be attempted by the average amateur. Quite often, even though time and money are available, the field is too large to do it justice and, the desired result is lacking when the trip is over.

The surest way to produce an award-type travelogue film is to make a careful survey of the possibilities which are available to you. A professional would do that before going ahead with a reel and it is obvious that the same rule should apply to the amateur.

To get the best out of any documentary endeavor you need to be enthusiastic and it is best to know your sub-

ject thoroughly before you start. Carry out as much research as you can until you know it so well that you can visualize the greater part of the story even before an inch of film is exposed. There will, of course, be many angles and scenes which you will discover only after starting the job and which just must be included in your plan "sight unseen."

Robert Flaherty, the world's most outstanding producer of the documentary type film, has always selected a sure-fire subject before starting. His "Nanook of the North," "Moana of the South Seas" and "Man of Aran" are typical examples of applying serious thought and work to simple themes. There may be such themes in your own neighborhood, city, county, state or country. Certainly you will not have to journey to the North Pole or the South Seas to find it. But you should consider every angle—pictorial aspect, action, dramatic appeal and practicability before launching out on your venture.



If you can't hit on an idea of your own without having to go to the ends of the earth, I can tell you of a little spot—not too far away—just waiting for as many movie-makers as care to come.

It is Saba—a tiny speck of volcanic island projecting out of the deep blue, turbulent waters of the Caribbean Sea just where the great bow of the string of islands veers off to the south. Saba is about a hundred miles southeast from St. Thomas and is best reached by sailing from New York on the Furness Line or the Canadian Pacific SS Lines to St. Kitts and connecting there with the Royal Netherlands *M.S. Baralt* which sails fortnightly for Saba. Or you can take a coastwise sailboat from St. Kitts to St. Eustatius and rent a native sloop for a dash across eighteen miles of open sea to Saba.

On a clear day you can see Saba from St. Eustatius. As you approach you see steep rock walls rising almost perpendicularly from the sea. High up on the cliffs, doll-like houses hang tenaciously to scant rocky ledges. The very entry into Saba furnishes you with an ideal introduction. There are no harbors or docks. Steamers anchor offshore in deep, treacherous water. If the sea is running too high, they pass Saba up until the next voyage. Always there are huge swells pounding into white foam on the beach. You can easily recognize the dramatic angles that could be included in a sequence of landing on Saba.

At a signal tower up on a high ridge, there is an old watchman who keeps a lookout and signals the arrival of every craft to the people of Saba. By the time the boat drops anchor, the harbor-master, chief of police, customs officers, boatmen, stevedores and a crowd of onlookers are already down at the landing.

A most impressive shot can be made through the rigging of your boat to include a jagged peak, the winding trail down to the landing and activity on the beach. Watch out for the harbor-master's boat as it comes alongside and neat, polite officers come aboard to give you clearance. By that time some of the surf boats are waiting to take passengers and cargo ashore. It will be to your advantage not to take the first boat but to stay on board long enough to get this angle of debarkation activities from the *Baralt*.

With these scenes finished, you can select a seat in one of the boats, choosing

a place that allows you to make a close-up of the boatmen pulling on the oars. As you approach the shore you will see a narrow strip of open beach thirty feet wide between treacherous rocks. These boatmen, seasoned men, have keen eyes and steady hands. They watch their chance and ride the crest of a big wave until the keel grounds on the shore. Quick as a flash they are waist-deep in the surf. With strong hands on the gunwale they heave to with succeeding waves until the boat with its precious cargo is high and dry. Everything that builds and sustains Saba must be brought in this way.

Your next cue will be to take a position on shore among the rocks so that you can make general views and close-ups of another boat coming in through the surf. Close-ups of the waves dashing on the rocks will be good cut-in shots. Some human interest close-ups can be made as the boatmen lift passengers and miscellaneous cargo from the boat to the beach. You are apt to see a doll, rocking chairs, phonographs, sewing machines, beds or sacks of flour handled with skill and ease.

One of the best shots of the landing can be made looking down from the first turn in the trail about 150 feet above. It is best to get up there immediately so that you can get a general view showing the *Baralt* in the distance, a shore boat making a landing and the accompanying activities on the beach.

This done, it is advisable to go back down on the beach for close-ups as the cargo is loaded on donkeys' backs and men's heads. If you keep a sharp lookout you can get some dramatic farewells as loved ones get aboard departing surf boats. Soon the *Baralt* will be pulling up anchor and sailing away while Sabans pull their boats high and dry, take up a load and start the weary trail back up the Rock to home.

If you work fast there are all kinds of shots waiting for you as you join the people on the upward trail. Try a close-up of bare feet as they take footing on the rocky steps. Set up by a turn in the trail so that a load passes in the foreground while others are seen in the distance. Then look for a high point from which the sea looms up far below as straining legs pass close to your camera. Make a low shot looking up the trail as

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EACH year the members of countless amateur motion picture clubs eagerly look forward to their clubs' annual film-contests. Everyone puts on his best bib and tucker for the club banquet, and endures banquet cookery and speeches alike, buoyed up with the hope that this year *his* entry will prove the winning film. Sometimes it is—but more often it isn't. Then comes the inevitable question, WHY? Sometimes, it is true, personal feelings are hurt when a film over which Mr. Moviemaker has labored long and lovingly shows up among the "also-rans," but from my own experience both as a contestant and as a judge in many such events, I'm convinced that in most cases this questioning attitude arises from a genuine desire to know what's wrong with the

are not essentially records of vacations or family incidents. This group usually is classed as "documentary," and includes records of scientific and medical achievements, mechanical or industrial operations, chronicles of events, or even the picturization of some personal event such as the building of a new home.

The judging always gives equal consideration to each group and the winning film is chosen from the highest-scoring entries. As a result, the winner may be a travelogue, or a documentary film and not necessarily a scenario picture.

Judges usually use a form or chart in which certain percentages are allowed for the different phases of picture-making. One of the most popular scoring forms is that used by the L. A. 8mm. Club, which is patterned after that used

of photographic endeavors in the contest and each is harboring a profound hope that his may be the winner of the grand prize. It has been my experience that many entrants are placing most of their confidence on some breathtaking scene or sequence but that the balance of their picture is deficient and offers no support for that pet sequence or scene. Needless to say, the film gets a low rating and is out of the running.

Other films, usually family records, are full of the antics of some attractive baby or pet animal, but as the editing and continuity is poor, the interest for a general audience is low. Films of family portraits interspersed with disconnected views of the pets, neon signs, tractors and the daily capers of baby are not only poor entries, but take up val-

What Makes A Contest Picture?

By Claude W. Cadarette

Founder, L. A. 8mm. Club

individual's film—why it didn't place, why the more successful films did, and above all, what can be done to improve the filmer's future pictures.

Overlooking for the moment those hair-line distinctions which separate top winners from their runners-up in second and third positions, let's come right out and admit that in almost every instance of "also-ran" picture-making that I've encountered in judging many a club contest, the trouble is that the unsuccessful film was one which lacked some or all of the essential qualities to put it in a really competitive classification. The maker didn't know what constitutes a contest picture!

If your picture is going to compete with other films, it's got to be a complete picture, rather than just a collection of nicely-photographed shots or scenes that interest you personally. It's got to begin with a basic idea that is of interest to the other fellow—and then carry through and "sell" that idea to the audience.

This doesn't necessarily mean your film must be a scenario production. If your interests run that way, all right. But there are several other types of picture which can prove competitive, too. And just as successful!

Most contest entries can be placed in one of three distinctive groups. The first group is, of course, the scenario group—films which tell a definite story or plot, and lead up to a definite climax, as in playlets, comedies, dramas, and so on.

The second grouping includes travelogues, vacation-pictures and scenic films.

In the third group are films which lack a strictly dramatic climax, and yet

in THE AMERICAN CINEMATOGRAPHER'S International Amateur Movie Contests. It rates a picture as follows:

General Interest or Audience

Appeal	40%
Exposure	20%
Composition	10%
Titling	10%
Editing	10%
Continuity and Camera Technique.....	10%

From this chart, you can readily deduce that the greatest *single* factor the judges consider is the amount of appeal your picture has for a general audience. It is this phase which gains a large percentage for the scenario film as a good plot invariably appeals to the greatest number of people. Yet the balance of the percentages allowed for technique are greater than the General Interest and if a scenario picture is deficient in the other phases it can easily be defeated by a picture from a non-scenario group.

In amateur contests, where amateurs are trying to acquire as much knowledge of picturemaking as possible, it is fitting that the total value of the photographic phases be judged as greater than audience appeal. In photography, exposure is the most important factor and receives the greatest number of points. Rightly so, for good photography is first of all good exposure. The balance of the percentages are equally divided between continuity, titling, etc. With this method of judging, any film, regardless of its subject-matter, receives the same consideration in the final analysis.

Most judges fully appreciate that the entrants are placing their best efforts

uable time for the judges. This kind of film is not even a good record for the family. Why put it in a contest?

Scenario films must have a simple but interesting plot coupled with close cutting and smooth flow of continuity. This group of pictures undoubtedly calls for the utmost care in all phases of moviemaking, as more problems must be overcome than are encountered in a travelogue or documentary type of picture.

It is usually advisable to allow some disinterested amateur photographer to preview your picture for a critical analysis before entering it in any contest. If your film is a story of the baby's antics, be sure that you have a good continuity of his day's activities from morning to night, with enough humor and interest to rate high in the "appeal" classification. In any scenario type picture, if your story is complete and concise, your percentages will gain perceptibly and by augmenting this gain with good exposure and titling, you immediately get into the high-point score group and create real competition for the other members.

Travelogues and vacation films, to be interesting, should rank closely with scenarios in story-telling aspects, but of course do not necessarily embody a plot. Interest in travelogues can easily be built by using a running gag, or by planning a series of scenes to carry your audience mentally along on the trip. Travelogues are difficult to film interestingly and it is more satisfactory to plan a continuity to splice into the film inter-

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MARLENE DIETRICH

Kodachrome Moviemaker

By WILLIAM STULL, A.S.C.



WHOEVER coined the epigram that beauty and photographic talent belong on opposite sides of the lens must never have met Marlene Dietrich. For in addition to her acknowledged talents as one of the screen's most glamorous stars, Marlene is one of Hollywood's most skillful home moviemakers. Under the tutelage of such camera-aces as Josef von Sternberg, A.S.C., Rudy Maté, A.S.C., and others she has for years practiced the hobby of 16mm. filming, not only as a means of making family records, but as an artistic expression as well, until today she is fully as much of an artist behind the lens as in front of it.

She specializes in Kodachrome. "I have owned two 16mm. cameras," she says, "my original 70D-A Filmo, and more recently a more compact magazine-type camera I bought when I went abroad a few years ago. I have photographed thousands of feet of film with both cameras—yet neither one of them has ever had any black-and-white film run through it. Once I saw what could be done with Kodachrome, black-and-white lost all interest for me, and I've specialized in color ever since.

"My 16mm. filming began much the way many other amateurs started," she continues. "I bought the Filmo five or six years ago so I could make my own movie record of my daughter Maria as she grew up. And I became so interested in the artistic possibilities the cine-camera offered that I've been making my own movies ever since."

Her interest in color began at the same time, and was an outgrowth of her professional work. "No," she will correct you, "it did not begin when I

played in the Technicolored 'Garden of Allah'—it was long before that that I began to be interested in color. The Paramount Studio was experimenting with a color process—a 35mm. refinement of the old Kodacolor process some 16mm. filmers may still remember—and they asked me to make a test. When I saw that test on the screen, I became a color enthusiast immediately. Just at that time the first 16mm. Kodachrome film came on the market—and I have shot nothing but Kodachrome since.

"And frankly, while I thought the results Hal Rosson, A.S.C., got with Technicolor in 'The Garden of Allah' were spectacularly beautiful, they were so far inferior to the results both Hal and I were getting with our 16mm. Kodachrome even then that I was rather dissatisfied. I am sure I'll never be quite content until I've had a chance to act in a 35mm. Kodachrome production!"

Travel films make up a generous part of Miss Dietrich's 16mm. library. But they're travel-films with a purpose—as carefully planned as a professional studio production, edited and titled so each is a really complete picture, interesting not only to Miss Dietrich and her intimates, but to anyone who might be privileged to screen the reel.

"I try to plan even travel films beforehand," she says, "so that when the trip and the shooting are both over, I will have a really complete record of where I went and of the people I met. I don't mean by this that I work from a written script as we do in the studio. That would be foolish—and impossible. But I try always to plan things so that I know beforehand what the interesting

things and places on the trip are likely to be, and to have my camera with me, ready for action, when I am at those places.

"One thing I have learned from my studio work that helps in making these personal films: that is that close-ups of the interesting people and actions are important. A beautiful panoramic long-shot of Monte Carlo, Juan-les-Pins or the Bay of Naples is a pictorial thing in itself, but it becomes infinitely more interesting as part of my personal picture of the region if I have more intimate scenes to cut in with it, such as close-ups of my daughter looking at that view, or in some characteristic action which, to use the Hollywood term, 'ties in' with the scenic views.

"Another thing I try always to do in making these personal travel-films: I join things together with 'gag' titles. And knowing that I will want to use such titles, I am always on the lookout for subjects and action which can be amusingly used with humorous titles. That sort of treatment helps raise any travel-film above the ordinary level of a collection of record-shots.

"Of course, wherever I can I try for pictorial effects, too. I have some shots of Maria, for instance, made as we were crossing the last time on the *Normandie*, of which I am particularly proud. We were well forward on the deck, and I managed some compositions with Maria in the foreground, and the deck and funnels of the ship in the background, and the blue sea with the ship's foamy, white wake trailing off in the distance which—well, perhaps I am prejudiced,

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Scenario for Making a Home-Movie Comedy

By H. William Moore

CHARACTERS

PA: A typical son of the open prairie. Would rather sit around in his shirt sleeves, shoes off, scanning the contents of the daily gazette, than be President of the United States.

MARY: Pa's offspring of "won't tell" summers, too silly to describe, and who currently is being thrilled by a total of four suitors—before conscription, of course . . . !

ARCHIBALD: A character from which all "timid souls" originated. So bashful he blushes when he reads the family Almanac, but bent on winning Mary.

BUSTER: Blustering as a blitzkrieg in March. Takes for granted that he is God's gift to all feminine palpitations.

HORACE: A not too genuine "Knight of Old," but well versed on his best almost-English mannerisms. Reserved is the word,—if you want to be polite about it.

JOE: As near a "straight" as they come in this opera. A small-town Cary Grant, as it were.

MAIN TITLE

"WHO WINS MARY" (FADE OUT)

Scene 1. Full-shot—interior living room
Pa (FADE IN) Pa is seated comfortably in easy chair, shoes off, feet on stool. He is puffing on a pipe and glancing at evening paper. CUT TO:

Scene 2. Close-shot—Pa. Pa pulls on pipe, registering peace and entire satisfaction of "evening" at home. Looks up and left, hearing someone entering room. CUT TO:

Scene 3. Medium close-shot—Hall door—Mary. Mary, giddy as usual, comes bouyantly into room and walks toward father (WALKS DIRECTLY INTO CAMERA). She is feathered in her "Sunday best." CUT TO:

Scene 4. Medium-shot—Pa and Mary—Facing camera. Mary walks into scene, sits on arm of Pa's chair, rumples his hair with one hand and indicates by holding up wrist watch to him that he will have to move, speaking meanwhile . . . CUT TO:

TITLE:

"PA, ARCHIE'S COMING OVER. YOU CAN SIT IN THE KITCHEN, HUH?"

Scene 5. Close-up—Pa. Pa pulls furiously on pipe, registering: "I might a know'd it . . . !" CUT TO:

Scene 6. Medium close-shot—Pa and

Mary. Pa says he's getting tired of being chased out of his easy chair. Mary pays no attention, but looks dreamily at ceiling, swinging foot and twisting lock of Pa's hair. Pa says: CUT TO:

TITLE:

"MARY, YOU MUST CHOOSE
EITHER ARCHIBALD, BUSTER
HORACE OR JOE—THIS
WEEK!"

Scene 7. Close-up—Mary. Mary giggles foolishly, saying: CUT TO:

TITLE:

"I WILL, PA! THIS WEEK.
BUT WHICH—?"

Scene 8. Medium-shot—Pa and Mary. Mary flips off arm of chair, pulls Pa from chair, and shoves poor man, shoes, paper, pipe and all toward hall door. CUT TO:

Scene 9. Close-shot—Mary. Mary giggles, then tries to look thoughtful . . . saying:

TITLE:

"BUT I CAN'T REMEMBER WHAT
NIGHT I TOLD THE OTHER
BOYS TO COME . . . !"

Scene 10. Medium close-shot—Mary. Mary shrugs shoulders as "what the heck," straightens cushions on chair, then looks up toward hall. CUT TO:

Scene 11. Close-up—Buzzer. Shot of buzzer ringing. CUT TO:

Scene 12. Close-shot—Mary. Mary swats nose with puff, causing cloud of powder to roll like cannon smoke. Pats hair and flits toward hall. CUT TO:

Scene 13. Full-shot—Hall Interior—Mary and Archibald. Mary enters scene, walks to and opens outside door. Archibald enters. CUT TO:

Scene 14. Over Mary's shoulder—Archie. Archie, confused and trying to keep from fainting, offers Mary a lollypop. CUT TO:

Scene 15. Medium close-shot—Mary and Archie. Mary accepts gift, unwrapping and placing lollypop in mouth while Archie sheds coat and hat. They start towards parlor. (Watch this scene doesn't run too long!) CUT TO:

Scene 16. Full-shot—Interior Living Room—Archie and Mary (Pick up action at davenport) Mary sits down on one end of sofa, beckons Archie to do likewise—next to her. He sits in extreme corner from her. CUT TO:

Scene 17. Close-shot—Mary. Mary straightens dress over knees, then with

sly glance, turns head slowly toward Archie. CUT TO:

Scene 18. Close-shot—Archie. Archie has been looking bashfully at Mary. Turns immediately away as action starts and looks down toward feet, fidgeting like a boy in kindergarden (CAMERA PANS DOWN TO FEET). Archie's toes are touching, heels at a 30 degree angle. The right shoe jumps atop the left to hide the underdog's embarrassment. CUT TO:

Scene 19. Medium close-shot—Archie and Mary. Archie gains some control of himself; starts searching in pockets. Mary extracts powder puff and assures the mirror her nose isn't shiny. CUT TO:

Scene 20. Close-up—Mary. Mary, finished powdering, flutters eyelids, awaiting the proposal. CUT TO:

Scene 21. Close-shot—Archie. Finds object of his search: piece of crumpled paper and the engagement ring. CUT TO:

Scene 22. Medium-shot—Archie and Mary. Archie tries to hide paper and ring from Mary and becomes more flustered. He rises from davenport and with back half towards camera, gets to his knees to propose, keeping ring and paper behind his back. CUT TO:

Scene 23. Angle over Mary's shoulder—Archie. Although Archie had evidently rehearsed his lines many times before leaving home, his memory has now failed him. He casts fleeting and nervous glances at slip of paper he hides behind back. The paper is in one hand, the ring in the other; he continually forgets which hand holds which. CUT TO:

Scene 24. Reverse angle over Archie's shoulder—Mary. Mary twitters, wiggling with excitement. CUT TO:

Scene 25. Close-up—Buzzer. Buzzer is ringing. CUT TO:

Scene 26. Mary and Archie look toward hall, startled. Mary springs to feet, suspecting it may be one of other three suitors. She pulls Archie to his feet, and before he can collect his bewildered thoughts, she has shoved him to and into a closet (CLOSET CAN BE ANY ROOM THAT FITS ACTION) and shuts the door. Mary starts for hall. Archie opens closet door and pokes head out. Mary runs back to closet door. CUT TO:

Scene 27. Close-shot—Closet door—Mary and Archie. Mary thrusts Archie back in closet, locks door, leans against door, fluffs up hair, then looks up toward hallway. CUT TO:

Scene 28. Long-shot—Hall doorway—Pa and Buster. Pa, who now has his shoes on, is trying to keep Buster out. But Buster comes on in, pushing Pa ahead of him with one hand, and holding a bouquet of flowers over his head with the other . . . Pa falls down and Buster steps over him (COMING INTO CAMERA . . .) CUT TO:

Scene 29. Close-up—Mary. Mary is

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Frame enlargements from some of the 8mm. scenario films discussed by the author.



Movie Ideas Are Everywhere

By ROBERT W. TEOREY,

L. A. 8mm. Club

ONCE the average moviemaker has gotten beyond the stage where he's satisfied with haphazard shots of family, friends and vacation scenes, the search for filmable story-ideas looms increasingly bigger and more terrifying than such technical problems as exposure, lighting, composition or title-making. Getting the scenes on film doesn't seem half so much of a job as figuring out what scenes to film! We sweat and strain in our search for ideas, and all too often end up by confining our filming to innocuous scenics or, occasionally, far-fetched scenario films which all too often leave us—to say nothing of the audience—wondering why we wasted good film on so silly an idea.

This isn't really necessary at all. There are good moviemaking ideas all around us every day—if we'll only keep our eyes open to see them. And these ideas don't by any means have to be spectacular or cinematically complicated; in fact, the simpler they are, the better, so long as they are built around a kernel of real humor and believable situations with, if possible, a humorous surprise-ending.

The best part of it all, for those of us who go about our filming in an amateur way and don't have to worry about copyright complications, is that many of the best home movie ideas are handed to us on a figurative silver platter, along with the breakfast coffee. Comic-strips, radio plays, magazine stories—especially "short shorts"—and even gags in the cartoon magazines can all provide a nucleus for a diverting little home movie playlet. Just keep your eye out for such ideas, clip them out and file them away—and before you know it you'll have an enviable reference-library of embryo scenarios for any occasion!

Months ago, for example, I clipped out a comic-strip which, while starring Blondie and Dagwood in the original, offers a perfect home scenario for almost any married couple. Boiled down to essentials, the story goes about like this:

Dagwood comes home from work all in a dither about attending a party to which

he and Blondie have been invited. He hurries into his party clothes in the shortest possible time and then, husband-like, frets and fumes while Blondie lavishes interminable attention on the details of making her feminine charm irresistible.

After much watch-consultation and nagging by the male member of the family, the fair Blondie finally decides she has reached the ultimate of perfection on dress, coiffeur and "paint-job," and the two start belatedly out to the party.

The couple is next seen on the doorstep of their intended hosts. The door opens to Dagwood's insistent bell-ringing, disclosing the hosts—emphatically *not* groomed for a party—who none too gently inform Mr. and Mrs. Bumstead that they are just a trifle late: the party was the night before!

This story is built up from one little detail—mistaken date of the party. Yet it is humorous enough to furnish the incentive for making a snappy little comedy with plenty of laughable action. So, watch the comic sections—you'll be surprised at the material obtainable.

As a further illustration—Sappo in the funnies of last Sunday (April 13th) tries on a new pair of trousers. Finding that they are too long he asks Mrs. Sappo to shorten them for him. Her answer is that the job is too difficult for her to tackle and that he'd better take them back to the tailor. Sappo is indignant and decides to prove to friend wife that the job is relatively simple. He proceeds to cut off one leg of the trousers—puts a cuff on it—tries it on and finds that it is perfect. Removing the trousers he cuts again—makes another cuff and when he tries the trousers on again—finds that he had cut off the same leg twice!

A short radio play gave me the material for a 125 foot 8mm. comedy entitled "The Golf Widow," which has received many honors in club and national contests. The basis for the play centers about a neglected wife acquiring boy-friends to fill her lonely hours.

The play indicates that the head of



this family not only neglects his wife for golf, but even sleeps with a driver clutched firmly in his hand! Awaking, he fondles the club and a transition to the breakfast-table shows him deep in the study of a golf manual, paying but little attention to fair wife and the meal.

Soon, grabbing his bag of clubs, he departs, kissing friend wife on the cheek in passing. As the golfer moves out of the apartment, a young man who apparently had been awaiting this action enters and proceeds to make love. In the midst of the love-making, a knock at the door heralds a new arrival and the boy friend ignominiously dives into concealment behind the davenport.

The new arrival proves to be another
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LUAU.

Documentary, 200 feet 8mm. Kodachrome.

Filmed by Honolulu Cinema Club, Francis Williams, Secretary.

This is an excellent picture of a little-known subject—a "Luau," or Hawaiian feast, and its preparation. In view of the facts that the preparations for these celebrations are very extensive, covering a considerable period of time, and that the feasts themselves are usually held at night, this film represents a really worthwhile achievement in camera-reporting.

Photography, exposure and color are, generally speaking, quite good, especially under the circumstances. However especially in the beach sequences, some of the exposures are uneven, with over-exposed scenes interspersed with perfect exposures. In these beach scenes, too, the cameraman apparently had difficulty determining how to frame things on a sharply-sloping beach, and was unable to decide whether it was more important to have the people hauling the fishnets appear erect on the screen, with the horizon slanting, or to have the horizon level and the people inclined. This is a disturbing flaw, as it makes the horizon-line wander off at crazy angles. In shots like this it is always best to set the camera up so that the horizon-line is level, even if this makes the people appear to be leaning one way or the other.

From the story-construction standpoint—that is, the viewpoint of conveying the picture's basic idea to its audience—"Luau" tells its story well, beginning with the preparations for the feast, and carrying through to the eating and the inevitable hula. However it seems to our reviewers that the story could perhaps have been told more completely. The filmers were no doubt so familiar with their subject that they overlooked points which to them are obvious; but to those of us who are not so familiar with Hawaiian customs, there are several questions the film leaves unanswered.

First, as regards cooking the pig: why not show how the meat is wrapped in wet leaves and buried among the coals of the fire-pit? This is only partly explained by the excellent scenes later in the picture in which the removal of the fire and leaf-wrapped meat is shown.

Second, as regards the fish part of

the feast, there are several gaps in the continuity. It did not seem to us that it was clearly enough established at the start just how the fish are to be caught; we gain the impression that the men have gone out in boats to catch them, and are surprised when we see the folks ashore hauling in on the net. Again, while it has never been our privilege to be in Hawaii to partake of a Luau, we understand the fish are prepared in a variety of unusual ways. Why not show how they are prepared, in close-up detail?

Finally, in the eating of the feast, it would seem that while this part of the picture is probably the hardest to get, and it was in general handled very well, it could have been improved by a more personal presentation. We would suggest taking a character or characters—strangers to Island customs—and showing in close shots their reactions to the food—their struggles with their first bites of poi, their surprise over the tastiness of the roast pig, their amazement over the many strange varieties of cooked and pickled fish, and so on. Individual close-ups of each of the strange dishes would be of absorbing interest, too.

In this sequence, one of the several filmers hit on an idea which would have been excellent for the whole sequence: he apparently used Type A Kodachrome and forgot his daylight-corrective filter, giving his shots an overall blue tinge which excellently suggests the tropical moonlight which is the usual illumination for these feasts. This technique, together with a title commenting on the memorable picture made by the flower-garlanded guests eating exotic food under the tropical moonlight, would heighten the picture's effectiveness.

The very complete titling is much to be commended, by the way, though we cannot help feeling it unfortunate that so excellent a color picture should have had black-and-white titles, rather than colored ones.

In general, despite these suggestions, we find "Luau" an excellent film. We can only wish that amateur clubs in other localities could emulate the civic spirit of the Honolulu group and get together to picturize their cities' special customs, features or attractions. They probably aren't as spectacularly out-of-the-ordinary as Honolulu's "Luau's"—but they're there, somehow, in every city—and well worth filming.



Part of THE AMERICAN CINEMATOGRAPHER'S service to its readers is individualized review and criticism of amateur movies by members of the A.S.C. In making these analyses, the reviewers make full allowance for the differences between professional and amateur cinematography in equipment and facilities, but recognize, too, that there cannot really be any double standard of judging cinematography: good photography is good photography, regardless of whether it is on 35mm., 16mm. or 8mm. film. It is their aim always to be constructive in their comments, especially to point out to the home moviemaker how he may utilize in his own filming the many little tricks of camerawork, lighting, editing, titling and direction which professionals have learned through long years of moviemaking, to the end that his films may be better, smoother and more graphic.

In response to popular demand, we have decided to publish some of these criticisms, especially in instances where they suggest things which will be of benefit not only to the maker of the film in question, but to other home filmers as well. We invite all readers to send in their films for review.

THE EDITOR.

NOBBY.

Scenario Film; 200-feet 8mm. black-and-white.

Filmed by Ronald Sinclair and Raymond Daum.

One of the most difficult subjects the amateur filmer can tackle is a comedy; all too often desire outstrips performance in either the original idea or its execution, and the result can be painfully unfunny. But "Nobby" is a very welcome exception to this rule: it has a good comedy idea, good gags, and is very well executed. It is a particularly good example of capable direction and cutting.

The possibilities offered by a mischievous small boy and a crotchety and unwelcome elderly guest are obvious. The makers of this film have used them to the full. While some of the gags may be a trifle obvious, they are—when handled with the snap shown in this picture—always laughable.

Aside from good material, the biggest secret of silent-picture comedy is "timing," both in action and in cutting. "Nobby" could serve as a model in this

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AMONG THE MOVIE CLUBS

CALLING CLUB SECRETARIES!

This department of THE AMERICAN CINEMATOGRAPHER is your department. We feel that there is a great deal to be gained all around by making these reports of club activities available to other clubs and to independent cine-films all over the country. To that end, we ask all you club secretaries to consider yourselves special reporters for THE AMERICAN CINEMATOGRAPHER with the assignment to "cover" the activities and meetings of your club. Send us those reports as quickly as possible after the event has happened—and make your report accurate and prompt. Wherever possible, we'd appreciate getting reports of meetings that have actually happened, rather than of those that are scheduled to happen in the future, so that none of us will be embarrassed by reading that something is going to happen at such-and-such a meeting, only to find later that some switch in schedule made the actual meeting very different. And please—remember that printers and editors wait for no man—so get your reports in for the next issue by not later than the 20th of the month.

The Editor.

Long Beach Studies Filters

A special feature of the April 2nd meeting of the Long Beach Cinema Club was 1600 feet of black and white and Kodachrome films taken by Miss Lois Elliott on a trip to Europe in 1938 and a trip around the world in 1937. A Club production picture, "Happy Landing," filmed by Bert Williamson, and a film sent down from Hollywood, titled, "The Honeymoon Is Over," were also shown.

The April 16th meeting was highlighted with a demonstration by William Stull, A.S.C., Editor of THE AMERICAN CINEMATOGRAPHER, on "Special Effects with Filters," which he illustrated with pictures. Also shown, were "Prize Winner," made in 1937 by J. Kinney Moore; "Mt. Zao" by Tsukamoto, and "Ritual of the Dead," by Richard H. Lyford. John Farneman of the Western Instrument Company talked on "How to Use a Meter," and exhibited a case showing both European and American made meters and their parts. New members accepted were C. E. Lay, Myrtle Adams, Dr. Harold B. Brook and Richard Carlyle. Following the meeting, refreshments were served.

RAYMOND FOSHOLDT, Secy-Treas.

Philadelphia Studies Screens

The Philadelphia Cinema Club needed a new projection screen. What should it be—beaded or half-tone? There was a lot of discussion and opinions. Those favoring a beaded screen were positive it gave a more brilliant projection, but the half tone devotees were not so sure.

So at the last club meeting, April 8th, a test was made with a MacBeth illuminometer to settle all arguments. Both screens were set up side by side and a 16mm. colored film was projected, overlapping both screens, from the same projector employing a 750-watt 110-volt lamp.

Before official results were announced, the popular vote was for the beaded screen, but the half-tone partisans pointed out that at close range or at bad angles their favorite was better illuminated and sharper.

The results from the illuminometer showed that when view along the direct axis, the illumination was 110% better in favor of the beaded screen, and at a 30-degree angle it still indicated 60% improvement. However, at a 45-degree angle, the half-tone screen surpassed the beaded job by 25%, and increased this lead to 33% at a 60-degree angle.

One strange and as yet unexplained phenomena was the change in focus and sharpness on the beaded screen, which occurred at an angle between 30 and 45 degrees. This was the point when to the eye the half-tone screen first began to appear brighter.

As most of the members prefer center room seats, the beaded screen won the vote.

The session was brought to a close with a showing of 8mm. films. Mr. Harry E. Rilling exhibited 800 feet of World's Fair scenes, showing interesting views of the Great White Way, the Acquacade and Transportation. Mr. Wilmer D. Coles showed two short films, one on "A Day at the Shore" and the other, "Picnic in the Pines."

B. N. LEVENE, President.

L. A. 8mm. Has Contest

The April meeting of the Los Angeles 8mm. Club featured an uncut film contest in which there were 26 entries. Paul Cramer's "Never Again" captured First Prize, an Academy Spotlight; John E. Walter's "Boy Dates Girl" was second and received a roll of Kodachrome; Third Prize, a year's subscription to THE AMERICAN CINEMATOGRAPHER, went to M. R. Armstrong for "Search for Yehudi," and Claude Cadarette's "New Neighbor" captured Fourth Prize, a roll of pan film. These winning films are to be loaned for showing at the Annual Banquet of the Tri-City Cinema Club of Davenport, Ia., as a return for the loan of that Club's film on "Common

Movie Errors," which was shown at the April meeting of the L. A. Club.

Three new members were admitted to the Club at this meeting. They were Frank W. Bishop, Jaye Reeves and Dr. Phillip J. Tennis.

The meeting concluded with the showing of thirteen of the Contest entries.

BETTY BARNEY, Secretary.

Norse Christmas for St. Paul

At the meeting of the St. Paul Amateur Movie Makers, held April 1, was shown Mrs. O. N. Olsen's unusual 500-foot color film entitled "Christmas at Our House." The picture depicts the preparation of Norwegian foods and ends with the family in Norwegian costumes consuming the delicacies for their Christmas dinner. The work is beautifully done and is extremely instructive as well. The elaborateness of preparations for the holiday feast amazed those not acquainted with Norwegian customs. The film is almost certain to be in demand for showings throughout the Northwest since such a large part of the population in that area is of Scandinavian origin. The titles of the picture also demand special commendation. They are hand-lettered on air-brushed backgrounds and are done in a very appropriate and creditable manner.

AGNES MARX, Secretary.

Tri-City Has Varied Show

The Tri-City Cinema Club (Rock Island and Moline, Ill., and Davenport, Ia.) enjoyed a program of outstanding films at the April meeting. Highlights included "Isle of Orleans," 400-ft. 16mm., sound-on-disc, color, by Mr. and Mrs. F. R. Crawley, of Canada, a 1939 ACL Grand Prize winner; "Hummingbirds," 400-ft. 16mm., color by E. R. Hoff, of Freeport, Ill., who spent three years in the Colorado Rockies making this classic of bird life; "Exposure and Exposure-Meters," 400-ft. 16mm. black-and-white documentary from the Harmon Foundation, and "One Year in the Life of Two Boys," a personal documentary film, 200-ft. 8mm., by John E. Hoffman, of Moline.

DR. ALBERT N. MUELLER, President.

Utah Amateur Movie Club

The Utah Amateur Movie Club's April meeting included "Basic Camera Technique," by Al. Morton; "I Have a Problem," by Clarence Tyndall, and the showing of the 1940 Contest Film by John Huefner.

TED GEURTS, Secretary.

Minneapolis Films Church Report

April meeting of the Minneapolis Cine Club scheduled showings of "Sport

(Continued on Page 254)

THE IDEA EXCHANGE



Portable Titler

Here is a portable title-board I've built for use with my 8mm. Bolex. It can be used for making all kinds of titles, but the purpose for which it was specially developed is making double-exposed and "spoken" titles in the field.

As can be seen from the picture, it consists of a sturdy bar, at one end of which is a suitable bracket to be screwed between the camera and tripod, while at the other is the title-board. The title-board can be of any convenient size according to the dimensions of the title-cards you prefer to use. The length of the supporting arm will naturally depend on the size of the title-card. You will notice a block is mounted on the inner end of this arm, so that it fits tightly against the front of the camera, to hold the titler in rigid alignment with the camera and lens.

I made this titler so that the title-easel can be folded down, as shown by the dotted lines, and pivoted out of lens-range, so that the title-board can be left on the camera while shooting other scenes.

This type of title-board allows me to shoot double-exposed titles with moving backgrounds right in the field, exposing first the background and then, after re-winding the film, the title, or vice-versa. Another and most important use I have for this titler is in making superimposed "spoken" titles as in my film "Three Wishes." With it I can shoot the action of the person speaking, then rewind the film, and then expose the title wording in close enough synchronization so that the words appear double-exposed in the shot as the speaker's lips move. I've found this a much easier method than taking all the action for a half or whole roll, and then trying to go back and re-expose the titles, trying to remember footage-counts and just what comes where.

EARL COCHRAN.

Micro-Movies

I have read with interest the article by Paul R. Nelson on Micro-Movies (January, 1941, issue) and venture to make a few observations. The beam-splitter prism he mentions seems to my mind an unnecessary and expensive component. Also it absorbs considerable light.

THE IDEA EXCHANGE is just what the name implies—the place where 16mm. and 8mm. cinefilmmers can swap moviemaking ideas with the other fellow. The little improvised tricks you used to solve one of your cinemaking problems may be just the answer to something that's perplexing a fellow filmer—and one of his ideas may solve a problem for you.

To help out this exchange, THE AMERICAN CINEMATOPHILIST invites you to send in descriptions of gadgets, tricks, shortcuts and methods you have used in any phase of home movie work—shooting, editing, titling, projecting, processing, and the like. If possible, send along a photograph or sketch to help make your description more clear to the other fellow. For every idea published in THE IDEA EXCHANGE, we'll give you two projection-reels and cans. Really unusual ideas will receive higher awards. When sending in your idea, let us know whether you shoot 8mm. or 16mm. to facilitate sending you the right equipment.

Why not mount a small circular wafer slide glass in the microscope tube? For refinement it can be fixed to a knurled knob for exact rotation. It will give ample reflection for visual inspection, and pass a lot of light without much loss and practically no distortion.

And for general moviemaking use, why buy expensive snap-on supplementary lenses for ultra close-ups? Cheap spectacle-lenses will serve the same purpose, and can be lashed on with surgical tape.

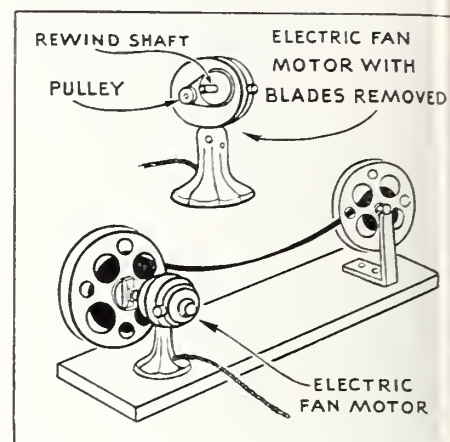
I am sorry I cannot send diagrams or sketches, but that would mean a long and protracted negotiation with the censors!

J. P. J. CHAPMAN, A.R.P.S., F.R.S.A.
Bournemouth, England.

Power-driven Rewind

A major problem in cine-club meetings is that of getting the films re-wound after they've been projected—and doing it quickly and without disturbance. To solve this problem I made myself a power-driven rewind which works so quickly that I can have a full 400-foot 16mm. reel rewound before the projectionist is through threading the next picture onto the projector. It was made almost entirely from scrap parts I had around the house, and the total cost was about a dollar and a quarter!

The motor is taken from a cheap electric fan of the sort you can buy in any cut-rate drug-store for a dollar. The



fan-blades and their guard are discarded, for all you want is the motor and its supporting pedestal which is usually just the right height to accommodate a 400-foot 16mm. reel.

In place of the fan-blades, fit a small pulley onto the motor-shaft. You can buy a stock pulley for only a few cents, or if you enjoy playing with a lathe, as I do, you can turn one out of any piece of scrap metal you have around your shop.

Next, provide a simple metal bracket to hold a second, larger pulley and the rewind spindle. You can often pick up complete the pulley-and-spindle assembly from a wrecked toy 16mm. projector for this. Otherwise, you can use a stock pulley and fit it to a shaft suitably fitted to accept the reels—16mm. or 8mm. or both—which you use. I turned the shaft I use in my rewind from an ordinary $\frac{3}{8}$ -inch bolt. The inner end of this shaft should be square, to fit the square opening on 16mm. reels, while the other end should be turned off round. If you want your rewind to be a neat, professional-looking job you can fit a bent spring or a spring-tensioned ball in the side of the spindle to hold the reel in place; but if you just want the gadget to work, simply drill a hole in the outer end of the shaft and slip a cotter-pin into it to hold the reel on.

If you want a fast rewind, have the pulley on this spindle about twice the diameter of the one on the motor-shaft. The drive can be effected by any convenient bit of belting. If you have a belt-driven projector, here's a use for which you can salvage bits of discarded projector-belts. Otherwise, you can do the way I do, and simply slip a couple of ordinary rubber-bands around the pulleys. They will work excellently, and can be replaced for practically no cost. You don't necessarily have to use this reduction-drive system, but it's better, as this gives more ample power

(Continued on Page 252)

...THE SHOWCASE...



"Blimp" For Cine-Special

Filling a long-felt want in the 16mm. sound field, the Auricon Division of the E. M. Berndt Corp., of Hollywood, announces a soundproof "blimp" for use when making direct-recorded sound-films with the Eastman Cine-Kodak Special. The "blimp" is a sound-proofed enclosure designed to make possible the operation of the camera and motor drive in the presence of a sound-recording microphone. The "blimp" prevents the operating noise of the camera from reaching the recording microphone.

The Auricon blimp is designed for easy access to the camera for lens adjustment and reloading. Camera film-magazines can be interchanged without removing the camera from the blimp. A special side window in the blimp allows checking of the film footage while the camera is in operation.

The window in front of the camera lens is hinged and may be dropped down for easy focusing or for changing lenses. A shallow lens-shade and window is used for the 15mm. wide-angle lens and the standard 1" lens. A deeper lens-shade and window is provided for use with the 2", 2½", 3", and 4" telephoto lenses. The two lens-shades are instantly interchangeable by means of a slip-pin hinge.

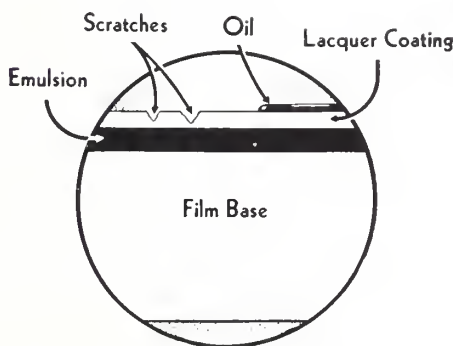
The blimp body is lined with rubber sound-absorbing material which is dust- and lint-free. The Cine-Special camera mounted on either an Auricon motor-drive or a B-M motor-drive, is supported inside the blimp on special Auricon molded-rubber cushions. These prevent camera-noise from reaching the blimp-case, yet support the camera and motor-drive for rock-steady pictures.

The blimp, empty, weighs 19 pounds. The Auricon motor-drive weighs 4 pounds and the Cine-Special camera 10 pounds, making a total of 33 pounds for the complete blimped camera as it rests on a tripod-head. This permits the use of a light-weight professional tripod, and permits easy handling of the entire outfit.

The Auricon blimp contains an optical system which permits using the Cine-Special "reflex finder" when the cam-

era is in the blimp. A full frame, enlarged two diameters, is seen. Also available as accessory equipment is an outside control for the variable camera-shutter, as well as a follow-focus device brought out to a calibrated scale at the rear of the blimp.

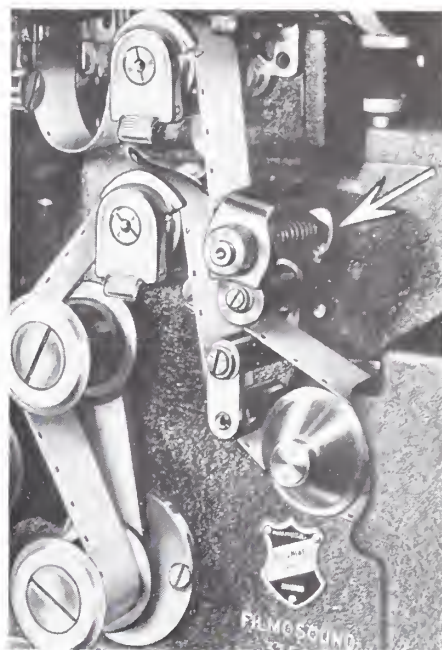
The Cine-Special camera finder which is carried as part of the camera lens-mount and used to follow the action while the picture is being taken, is also used when the camera is in the blimp. Two eyepieces are located at the rear of the blimp, and these line up with the finder-frame on the camera. One eyepiece is used when the 200-foot magazine is in position on the camera, the other eyepiece when a 100-foot magazine is in use. For special work, an external finder can be mounted outside the blimp if desired. The Kodak Optical Finder, the Berndt-Maurer large-field finder, or the Mitchell finder are all suitable for this application.



New Film Preservative

The new film-protecting lacquer treatment recently developed by engineers of the Eastman Kodak Company is now commercially available through the laboratories of the Calvin Co., Kansas City. This plant is stated to be one of the first in the country to install equipment for applying this coating to 16mm. film.

The new lacquer coat may be applied to both sides of the film, or to the emulsion-side only. The lacquer forms a thin, flexible coating over the surface of the film and this coating, instead of the delicate emulsion, receives the scratches, finger-prints and oil-spots which ordinarily cause film to appear old and worn after being projected several times, while its natural high-gloss surface makes oil-mottle and finger-prints practically undetectable. The lacquer is stated to be considerably more resistant to normal scratches and cinch-marking than the untreated emulsion, though in time, of course, even the lacquered surface becomes scratched. When this happens, however, the lacquer may be removed and a new coating applied, restoring the film to practically new condition.



Oscillatory Stabilizer For Filmosound

Just received from Bell & Howell is announcement of a new stabilizing device which is stated to make radical improvement in the quality of 16mm. sound. Known as the Oscillatory Stabilizer, it is held to remove all trace of "flutter" from the film's movement past the sound-scanning beam. The new stabilizer is interposed between the usual second sprocket and the sound drum, and operates on the principle that forces that are equal and opposing cancel each other. Thus, it is claimed, only a constant, even flow of film can reach the sound drum and the scanning-beam. The manufacturers claim that with this device Filmosound reproduction of music and the spoken word reaches the ear with a new fidelity. Practical users of projectors equipped with the new device have made equally glowing reports of the improvement in sound quality. The new Oscillatory Stabilizer, the makers state, is patented and is available only on Bell & Howell Filmosound projectors.

In addition, Bell & Howell announces that all Filmo 16mm. silent projectors are now being equipped with sprockets carrying teeth on one side only, so that 16mm. sound-films may be run on silent Filmo projectors, even though the sound is of course not reproduced. This is an important safety measure, for it eliminates the possibility of ruining valuable sound-films by attempting to project them for preview or other purposes on ordinary silent projectors.

(Continued on Page 252)

Fine Grain

(Continued from Page 211)

ing current production as I am of the improved results we are now putting on the screen. For this I feel endless credit is due my assistant, Ferdinand L. Eich, who worked out the many electrical, chemical, and engineering problems of the change, and to the experts from the sound and photographic departments who worked with us on the project. The many technical experts from the film-manufacturing companies have also played a very great part in making this advancement possible. They have worked beside us in every way, bringing out new and improved experimental emulsions until finally we had a product we could feel met our needs. I might point out in this connection that it is due to their work that one of the early objections to fine-grain positive has been overcome. This was the slight ivory tinge noticeable in the early film-types. This has been completely eliminated, and as far as visual color is concerned, there is today no difference between fine-grain and conventional prints on the screen.

"As a result of all this activity, every bit of printing of any sort done in our laboratory is now on fine-grain positive, including of course both sound and picture daily prints, and of course the light-tests, etc. The reaction of everyone on the lot has been one of favorable surprise at the noticeable improvement this change has made, not merely in the finer details of sound and picture quality only a technician might see, but in the sort of quality even non-technical people can see, hear and appreciate. We are sure, therefore, that as our first fine-grain release-prints reach the theatres, the public will also be pleasantly aware of our efforts to give them better pictures."

Sound Supervisor Loren L. Ryder is equally enthusiastic over the change. "There has already been a great deal said and written about the improvements made possible by fine-grain film," he says, "but I think it can be summed up very well by the simple statement that it is another step toward bringing to the public at large the same sort of sound and picture quality we in the studios get, but which considerations of print-quality, projection, and the like, have in many cases prevented the public from receiving."

"Fine-grain prints cannot, of course, offset the deficiencies of inadequate or obsolete sound or picture projection equipment. But they can at least improve the situation: a fine-grain print is immeasurably better than one made on conventional stock when both are reproduced on the best of equipment. When they are projected by inferior equipment, the fine-grain print will still stand out as the best, because it has better quality to start with.

"As has already been abundantly brought out, the use of fine-grain positive reduces ground-noise, giving us a

wider and more natural volume-range. It also gives greatly improved high-frequency response, for regardless of whether variable-area or variable-density recording may be used, the finer grain-structure of the new film results in better resolving-power, with the result that the fine detail of the high-frequency modulations is reproduced more cleanly on the film, and accordingly is reproduced more clearly. This means a rounder and more natural quality to both sound and music, with improved intelligibility of dialog, and less distortion than has ever before been possible.

"These improvements are noticeable even when we use fine-grain film for only part of the sound department's purposes, as in making original recordings, dubbing prints and re-recorded negatives. But inevitably, if we use this improved stock for only these steps, and have to put the final result on a conventional release-print, we are gaining only part of the total possible advantage, for the characteristics of the old-type positive upon which the release print is made will cancel out a large proportion of the gain. Now that we can provide release-prints also made on fine-grain positive, however, the chain is complete and the gains made by using fine-grain emulsions in all the previous steps will be preserved and passed on to the theatre."

The use of fine-grain positive has generally been considered as of advantage primarily to the sound component of a production, but its advantages from the pictorial viewpoint seem equally clear. Photographic Chief Roy Hunter, while withholding specific comment until he and his staff have had more extensive experience with the new stock, points out that an inherent feature of the fine-grain positive is that due to its finer grain-structure, it has improved resolving-power. This not only makes the finer details of the image more clearly defined, but also effectively adds to the apparent depth of field since it tends to remove from the picture a veil formerly cast overall by the positive grain, thus giving a sharper rendition of those parts of the image which were formerly accepted as inevitably out-of-focus.

Another feature of the use of fine-grain positive appears to be an impression of increased contrast, even though negative and print have been made to the same overall gamma previously used with conventional positive. Yet another change appears to be a generally smoother picture-image—one which on the screen appears cleaner and more uniform. In some instances this appears to give a cleaner and more attractive rendition of facial textures.

In general, as regards picture-quality and fine-grain positive, it may be surmised that this change is likely to call for minor changes in the established methods of some cinematographers—changes in lighting and diffusion technique, for example—but which, once grasped, as they will be, should fit very

well with the modern trend of cinematography toward greater crispness, focal depth and realism.

A number of experts, at Paramount and elsewhere, are also inclined to predict that this latest improvement in emulsion-making may very probably be followed next by improvements in negative emulsions which will give them a finer grain-structure. Hitherto, they point out, it has been generally recognized that the grain-structure of production negative films was finer than could be reproduced with conventional, coarse-grained positive used as the printing medium. Now, with fine-grain positive, it becomes evident that the remaining grain-effect visible on the screen is that of the negative itself. This, then, should be the next point of attack; already there are finer-grained, though slower, emulsions made for special-effects and exterior use, and it does not seem at all unlikely that finer-grained production negative types may follow, now that the need for them is being made more evident.

Finer-grained negative-processing might also be a solution, though the majority of studio laboratory experts are skeptical on this point. It is generally admitted that finer-grained negative development than is now customary is technically possible: the question is, however, if it can be made commercially so, in view of the shorter life and longer developing-time characteristic of most of these agents.

It is clear, however, that today's advances in the use of fine-grain positive emulsions is not only an important forward step in itself, but a very probable starting-point for future improvements in picture-negative emulsions and processing methods. END.

Infra Red

(Continued from Page 214)

the camera-ship flew above the other plane; in other scenes, and of course for making the background-plates, the camera-ship "hedge-hopped" at the same level as the other.

In addition to furnishing some decidedly exciting moments, these shots offered something of a photographic question, as well, as to how these varicolored backgrounds would photograph in infra-red. Quite satisfactorily, we found out as we viewed the rushes—but that by no means saved us from wondering until we saw the results on the screen! Fortunately, as I have mentioned already, I had chosen Eastman "Pan-K" for the task, and the brilliantly-defined contrasts characteristic of this film proved the precise answer to the problem. We got just the right softness to make a convincing night-effect but yet retained the snap and color-separation which made the light-colored ship and its constantly-changing, many-colored background stand well apart—almost stereoscopically so at times. As a matter of fact, the results were so satisfactory

RUDY MATE', A. S. C.

Director of Photography

"THAT HAMILTON WOMAN"

Alex Korda's Production

The popular choice of the month
HOLLYWOOD REPORTER
PREVIEW POLL

For
BEST PHOTOGRAPHY—

Up the Ladder—

VIVIEN LEIGH
RUDY MATE'
ALEX KORDA

At the camera—right running—

JIMMY MURRAY
2nd Assistant Cameraman

BURNETT GUFFEY
Operative Cameraman

CLIFF KING
Assistant Cameraman

Negative Processing
Consolidated Film
Laboratories

EASTMAN FILMS
BRULATOUR SERVICE



that I used the same stock, though with fuller exposure and lighter filtering, for some of the Death Valley day-effect scenes, as well.

I can't help mentioning in closing that until you've learned some of the queer little individual habits and preferences of infra-red emulsions generally, you're likely to get a few rude jolts as you view your rushes in the projection-room. I'll never forget my embarrassment, for example, when I first viewed some of my very first infra-red air shots, made on the original DuPont "Infra-D." The script called for a night-effect shot of a plane, lost above the clouds over the ocean. We picked a nice, hazy day, climbed about 10,000 feet and—just to be on the safe side—flew down the coast to Oceanside some 75 miles from Los Angeles. When we made the shot, we couldn't see anything but plane, sky and haze, so we went back to the studio well pleased. Picture how we felt the next morning, though, when we found the infra-red film had very efficiently penetrated that haze, and on the screen our "lost" plane had a beautiful background which included an excellent panorama of the city of Long Beach and its Signal Hill oil field, some 60-odd miles from the camera!

Another and more recent embarrassment came on another somewhat similar assignment when we were to show a plane flying through the broken tops of a puffy cloud-bank—intermittently clearly seen and hidden in the cloud. We made the shot as per specification (I believe we were using Agfa's Infra-Red negative) but—on the screen, believe it or not, the infra-red emulsion penetrated the clouds so over-well that the plane was actually more clearly visible when it was in the cloud than when it was in the open! For once, modern infra-red film proved itself too good! END.

"Oscarettes"

(Continued from Page 217)

action production still class for a scene from Warner Bros.' "The Sea Hawk." While this shot is pictorially effective and compositionally excellent, we again question the selection of the judges in this category, since the shot appears to us to be a miniature.

Bert Six, also of Warner Bros., was the runner-up in the action still (any type) group, with an amusing shot of Humphrey Bogart and "Zero" in "High Sierra"—and one which is an excellent example of real skill in speed-photography.

Runner-up in the fashion still classification was Frank Powolny, of 20th Century-Fox, for a still of Brenda Joyce. This, again, illustrates the qualities of composition, textural value and definition which these shots demand.

The final certificate of merit went to Elmer Fryer, of Warner Bros., for a distinctly unusual production still from "The Sea Hawk."

These prints were the winners from a

field of more than 3600 individual prints, entered by 58 studio still photographers. More than 500 of the top-ranking entries were hung during the public exhibition in Hollywood, and will, it is stated, travel during the coming year to camera clubs, museums, art schools, etc., throughout this country and South America.

END.

Fred Jackman

(Continued from Page 218)

creasing pressure of production activity and responsibility confines most of us more than ever to the studios in which we may be at work. Yet the technical advances constantly being made in the materials, equipment and methods with which we work demand increased attention from cinematographers individually and collectively. There are, too, many unsolved technical problems, such as those relating to the best utilization of modern emulsions, coated lenses, color photography, the professional use of 16mm., and the like, to say nothing of such coordinated fields as set-design, make-up, and the rest, which can only reach a final solution through the co-operation of all of the industry's Directors of Photography.

"Therefore, I look forward to greater activity in this direction by the Society's research and other committees and by the Society itself, both in study and discussion among ourselves, and in collaboration with the manufacturers and with other groups within the industry, such as the Directors, Art Directors, Make-up Artists, Laboratory Engineers, and so on.

"Yet another field in which the A.S.C., while already active, can and will become increasingly so is in collaboration with the industry's efforts to further the National Defense Effort. Many members of the A.S.C. are already active in the production of training films for the military services; others are active in yet other highly important Government Services, while still others are actively engaged in the organization of specialized photographic units for service in an emergency with the Army, Navy, Air Corps, etc. We of the A.S.C. cannot and do not forget that our organization is the *American Society of Cinematographers*, and the privileges and responsibilities that implies today.

"Finally, I want to pay tribute to the outstanding group of men the Society's membership have elected to serve them on the Board of Governors, and to the particularly capable officers selected to serve with me during the coming year. Their names include some of the unquestionably outstanding members of the profession, and some, too, not so notable or fortunate. But all of them are men in whose integrity, sincerity and ability the membership can place implicit trust, assured that the A.S.C. is not dominated by any individual or group, but is conducted by and for cinematographers, for the benefit of the camera profession and every man in it. Headed by such a

group, and assured of the loyalty and support of its members, we can say with confidence that notwithstanding the many notable achievement and successes of the past twenty-three years, the greatest days of the A.S.C. are still ahead of it!" END.

First Art Director

(Continued from Page 219)

of paper, the director made a crude diagram of the arrangement of doors and windows he required. The sketch was given the carpenter who then assembled flats accordingly, and painted or wallpapered them more or less suitably. Furniture was painted on the flats, chairs, tables lamps and all. There was no perspective in these sets, and the movement of actors was definitely restricted. They paraded in front of the backdrops, even more limited than on the stage.

Nor was the photographer trusted in those days. His camera was nailed to the floor, so as to insure a proper focus upon the actors.

Buckland was faced by a terrific problem. As a co-worker, he was aware of Belasco's wizardry and dramatic instincts. He was accustomed to settings that heightened the drama, and to its most effective expression through lighting effects. The Belasco properties that Lasky owned included "Madame Butterfly," "The Darling of the Gods," "Rose of the Rancho," "The Warrens of Virginia," "Mme. DuBarry," "Adrea," "Sweet Kitty Bellairs," "The Girl of the Golden West" and "The Music Master." To produce these plays in direct daylight was to sacrifice everything in mood and atmosphere that had made them successes.

The Kleigl brothers of New York had been the electricians for Belasco in the theatre. They had assisted Buckland in working out lighting effects, and in the process, had developed an arc spotlight they called the "Kleigl light." After a long discussion with experienced two-reel directors who thought artificial lighting impossible, Buckland was "permitted" to send to New York for Kleigl lights. He received exactly two.

While Buckland waited for these actinic carbon lights, he launched a one-man campaign to increase the size and scope of motion picture sets. He argued that even if everything seen on the screen were not in the sharpest focus, larger rooms dressed with real furniture lent an air of reality impossible to obtain with flats. His arguments sounded interesting, but it was not until the Kleigl lights he had ordered—both of them—arrived in Hollywood that he was able to prove his contentions.

Those little lights did valiant duty, were in use almost constantly at the old Lasky studio on Vine and Selma. With the release of Cecil DeMille's first important picture, "The Squaw Man," the public began to take seriously this upstart industry, to hail it as a new dra-

NEW BEAUTY

SUPERB photography distinguishes modern screen productions. Dramatic lighting and interesting camera angles receive stimulating support from the high quality and unvarying uniformity of Eastman negative films—each an expert in its field. Eastman Kodak Company, Rochester, N. Y.

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for general studio use

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when little light is available

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EASTMAN NEGATIVE FILMS

matic medium that might someday be an "Art."

No need to burden readers with the details of the advancements that followed. But we do believe that cinematographers should know about Wilfred Buckland who pioneered the craft of art direction and influenced the course of a great industry with a pair of Kleig lights. END.

Photography of the Month

(Continued from Page 223)

THE LADY FROM CHEYENNE

Universal Production.

Director of Photography: Milton Krasner, A.S.C.

After a long series of rather unimportant program films, this Frank Lloyd production is cinematographer Krasner's first essay into what might be called "big-time" A-production camerawork. Paradoxically, "The Lady from Cheyenne" has very little to offer Krasner, yet she offers much indeed, and he responds in distinguished style.

The production in itself—a "glorified western" played throughout for comedy—certainly offers Krasner little field for his talents. The sets are largely western shacks of the '70s, with which no cinematographer could do anything. The exteriors are drab prairies, with none of the spectacular locations or action of the bona-fide western.

But the star of "The Lady from Cheyenne" is Loretta Young, one of our top-ranking "glamor girls" who even in a comedy-slanted western must be kept looking her glamorous best. And Krasner does just that. In fact, we've seen Miss Young look far less effective in more pretentious pictures photographed by more publicized glamor-lensers than Krasner. So in spite of the many other photographically disappointing aspects this assignment presented, we'd say cinematographer Krasner has acquitted himself more than ordinarily well. And we'd advise Miss Young to ask for him next time she makes a picture. He does right well by her!

WASHINGTON MELODRAMA

MGM Production.

Director of Photography: Harold Rosson, A.S.C.

Hal Rosson, A.S.C., must be a busy man. It seems as though half the MGM pictures we've seen previewed of late have come from his camera—and very excellently, too, thank you. "Washington Melodrama" is the latest, and while it is an unpretentious little piece, it is most capably handled throughout. Personally, we thought the water ballet sequence far superior to all of "Ziegfeld Girl's" interminable super-production numbers. It's a pictorial delight, well worth the price of admission alone. And the rest of the production is well up to Rosson's capable standard.

REACHING FOR THE SUN

Paramount Production.

Director of Photography: William C.

Mellor, A.S.C.

Process Photography by: Farciot Edouart, A.S.C.

Second Unit Director of Photography: Dewey Wrigley, A.S.C.

"Reaching for the Sun" owes its being in more ways than one to the three A.S.C. members credited, for it is a production which could not have been made without the aid of skilled second-unit and special-process specialists. Thanks to their contributions, it is an unusual evening's entertainment.

On the production side, Director of Photography Mellor has done a very capable job, handicapped as he is throughout the picture by rough, glamorless sets and a cast composed largely of "he-man" characters. He distinguishes himself in his treatment of feminine star Ellen Drew, who in "Reaching for the Sun" is photographed more attractively than we have ever seen her appear. Someone—it may be Mellor—has also coached her out of some distinctly unpleasant mannerisms, notable among which are some peculiar mouthings she has always previously had when talking and smiling. Without them, and with Mellor's sympathetic camera-treatment, she begins to reach the screen as the glamor-girl Paramount's publicists exploit her as.

Farciot Edouart's special-process work is a basically important part of this production. It was manifestly impractical to take a complete studio troupe to Detroit to film scenes in a major auto-factory, and equally impractical to build extensive sets representing that factory in the studio. Edouart's process-work bridged the gap—and did it so capably it is hard to tell where Wrigley's Detroit-made atmospheric shots leave off and the studio-made scenes begin. As a matter of fact, less than 60 feet of assembly-line was constructed in the studio; the factory was put behind it and around it by Edouart's process-projection staff, frequently employing process-screens up to 35 or 40 feet in width, and Paramount's super-powered triple-head process projector. Without this, the picture could hardly have been made. As it stands—and by no means forgetting Wrigley's capable work in the eastern factories and foundries—"Reaching for the Sun" is a convincing picture, with one of the most impressive of thrill-climaxes where hero and heavy fight it out with a 50-ton manipulator and a 40-ton crane.

Duplicating this manipulator and other heavy machinery for close shots was an unusual assignment for art-directors Hans Dreier and Earl Hedrick, and one which they handle brilliantly.

"Majorette Productions."

Photographed by Jas. B. Shackelford, A.S.C. and Richard Fryer, A.S.C.

We recently had the pleasure of previewing a program of short-short subjects, made for the 16mm. coin-in-the-slot field by Majorette Productions and photographed by James B. Shackelford, A.S.C., and Richard Fryer, A.S.C. For some time we've held the idea that this

so-called "juke-box" field could lead to important developments in 16 mm., and it was gratifying to see what these two A.S.C. members were able to do in 16mm. monochrome and color. The results were technically excellent both as regards photography and sound. But what seems particularly interesting was that the makers of these three-minute musicals seem to be developing a definitely new technique, tailored specially to fit the requirements of their specialized field, rather than borrowing, as has so often been the case with films of this type, from either the stage, radio or slower-paced feature production methods. It will bear watching.

THE GREAT AMERICAN BROADCAST

20th Century-Fox Production.

Directors of Photography: Leon Shamroy, A.S.C., and Peverell Marley, A.S.C.

Expertly photographed by two of the industry's leading cinematographers, "The Great American Broadcast" is played too much for fast-paced comedy to offer its directors of photography particularly outstanding opportunities. The production offers several interesting technical points, however. It was, for example, photographed entirely with 20th Century-Fox's new coated "Baltar" lenses, and it gives several excellent examples of the increased depth and naturalness possible with these objectives even at the moderately reduced apertures (averaging f:3.5) used at this studio. The depth carried in the cafe sequence, in which the principals hold a post-mortem after their first dismally unsuccessful broadcast, is typical of the new trend in camerawork. It is infinitely preferable to the shallow-field visual effect obtained with conventional lenses and methods.

The sequence built around the Dempsey-Willard fight is also of photographic interest, especially as it appears that films of the actual fight are used. The special-effects laboratory has performed a most interesting piece of trick printing if this is the case, since these shots must necessarily have been made at the old silent-picture speed of 1 frames per second, and re-printed so skillfully that when projected at today's 24-frame sound-speed they do not appear either sped-up or jerky.

THE WAGONS ROLL AT NIGHT

Warner Bros. Production.

Director of Photography: Sid Hickox, A.S.C.

Special Effects: Byron Haskin, A.S.C. and H. F. Koenekamp, A.S.C.

This picturization of carnival life is richly atmospheric, not only dramatically, but photographically as well. Sid Hickox, A.S.C., has done an unusually deft job of capturing the atmosphere of oh film's locale. He makes it pictorial throughout, without yielding to the temptation to overemphasize the pictorial at the expense of the realism which is the necessarily dominant note of the production.

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SUPER-XX. This, of course, is the speed film, especially suited for movies indoors by artificial light or outdoors in poor light. Excellent general quality in addition to great speed. 200-ft. roll (Rochester only), \$13.50; 100-ft. roll, \$6.75; 50-ft. magazine, \$4; 50-ft. roll, \$3.75.

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Meters

(Continued from Page 224)

very helpful tricks, too. For example, it can automatically calculate filter-factors and filtered exposures for you. If you know the correct filter-factor for the filter you're using and the film you're using it on, all you have to do is divide the meter's film-speed setting by the filter's multiplying factor, and re-set the meter's speed setting accordingly. Then take your readings in the usual way, and you'll get the right exposure every time. Suppose, for illustration, you were using a film with a daylight speed-rating of 32, and you were employing a filter with a factor of two. Just divide the film-speed, 32, by the filter-factor, 2, and the result is 16. Set your meter for a film-speed of 16, and your filtered exposures will come out right.

The same trick will simplify exposure when you're shooting slow-motion. Just divide your film-speed by the number of times normal your slow-motion camera-speed represents in comparison to the normal 16 frames per second. For example, still using a film rated at 32, suppose we want to shoot at 64-frame speed. This is four times the normal 16-frame silent speed. So divide the 32 film-speed rating by 4, and you'll have 8. Re-set the meter's calculator for a film-speed of 8, and take your readings normally, secure in the confidence your slow-motion shots will be correctly exposed.

You can turn this trick around backwards, too, when you're shooting at camera-speeds *below* normal. In this case, of course, you multiply instead of divide; for instance, shooting at 8-frame speed instead of 16, you're shooting at half normal speed, and each frame is getting twice normal exposure. So set your meter's speed-rating for 64 instead of the 32 you'd use normally on the same film, and again your exposure will correct itself automatically.

Finally, there's the matter of *normal* film-speed ratings. Too few of us realize that the speeds as indicated on the meter manufacturers' film-speed charts are intended as a guide, rather than as a completely accurate figure. They should be modified according to the way you personally use your meter, and sometimes according to the meter itself. In practice, therefore, take the published speed-rating of any film as only a guide; if you don't get the results you want using that particular speed-rating, try a different meter-setting—one point *under* the published speed of your shots consistently tend toward underexposure; one point *over* if the tendency is toward overexposure. You can vary things even farther if necessary.

In the same way, sometimes using a different meter, or a different model of the same make of meter, you may find it beneficial to modify the speed setting similarly. I have a friend who discovered that when he changed to a new Weston "Master," after many years of using one of the older, wider-angled types, he had

a tendency toward underexposure—slight, but enough to bother him. He cured the trouble by the simple trick of using a speed-setting one and sometimes two points below the generally published rating—6 instead of the usual 8 for daylight Kodachrome, and so on. A bit unconventional, perhaps, if you're a great believer in the infallibility of the printed rule—but it got him consistently satisfactory exposures! And isn't that what we're all after, anyway? **END.**

Filters

(Continued from Page 225)

turned the sky black also turned her dress white!

And filters can do strange things to faces. For example, if you have to photograph a pretty girl with freckles, or perhaps with too deep a sun-tan, a yellow filter, or even an orange one, will improve things a lot, wiping off the freckles and lightening up the tan amazingly.

On the other hand, you'd better watch the heavier filters when you're making close shots of the ladies. The same filtering action that washes out the freckles can also lighten up make-up, and especially lipstick, amazingly. And a red filter will turn the average girl's lip-make-up completely white, so that it looks as though she had no make-up at all on!

One of the most important things in filtering is consistency. The professional cinematographer never allows himself to use filters indiscriminately. Instead, he considers each scene in relation to those with which it is to be cut to make up the sequence. Therefore we seldom see a longshot heavily over-filtered, with black sky, etc., if it is to be cut in with closer shots which, by reason of the players and their facial rendition, cannot be filtered so heavily. Instead, the professional tries to figure out just how easily he can filter his close-ups, and then coordinates the filtering of the other scenes with this. However, he can and often does filter the scenes in which the people are farther from the camera more heavily than he would the closer shots.

There are, of course, certain exceptions to this. For one, there is the matter of making extreme long-shots where you want to penetrate distant haze. This almost invariably demands heavy filters—usually the deeper red ones. The same is true, too, of night-effects made outdoors with filters. These depend for their effect on the overcorrected effect, and so have to be made that way. In close shots of people, special make-up is used, with the lip-rouge, particularly, of a slightly blue-red tone, so that the filtering action won't wash out the lips.

The professional, when he makes night-effects, has the advantage of being able to use special infra-red sensitive film. The amateur seldom has this film available. But in either 16mm. or 8mm. night-effects can be made quite satisfactorily by using a heavy red filter and then underexposing. Even more satis-

factory night-effects can be made by combining a light red filter with a green one; this, in fact, is a favorite filter-combination of many professionals when making night-effects even today. The combination gives you the dark sky, and yet at the same time gives a softer effect than is possible with a red filter alone. In using some types of reversal film which are processed with an automatic photoelectric control you will have to underexpose much more for night effects, by the way, than you do with films that don't have this automatic compensation.

Night-effects in Kodachrome, by the way, are very easy: simply use Type A without the usual pinkish daylight compensating filter, and underexpose. If you want deep-blue skies, simply add a Polar screen.

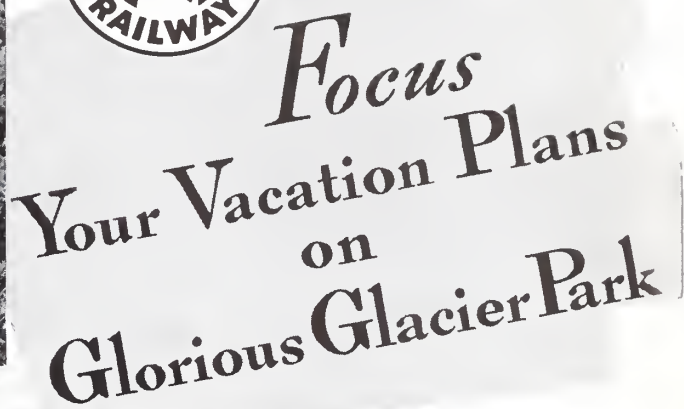
There is one group of filters which the professional uses, but which are almost unknown to the amateur, yet which can be very useful. These are the Neutral Density filters. They are colorless gray filters, which hold back light-rays of all colors uniformly, and, being colorless, have no effect whatsoever on color-rendition. They have two uses. For one thing, naturally, they are invaluable in controlling exposure in very bright light, or with some of today's super-fast film such as Super-XX or Agfa's Triple-Pan reversal film, which have speed ratings of Weston 100 or more to daylight. Often you will find your meter tell you that for a normal exterior shot with these films, the correct exposure is around *f*:32 or smaller, and most 16mm. and 8mm. camera lenses don't close to apertures smaller than *f*:16 or perhaps *f*:22. But if you put on a 100 Neutral Density filter, which has a factor of 10 for all films, your exposure comes up to *f*:11.

But the Neutrals are even more valuable in controlling excessive contrast and glare. They will soften extreme contrasts in lighting and scene-brightness, as, for example, shots at the beach in which you have a foreground of brilliantly sunlit white sand, or, for that matter, white snow, rocks, concrete, or the like, or similar glare from large white walls, and so on. For this purpose, and for softening the effects of contrasty illumination, contrasty film, and the like, the Neutrals are unexcelled, and can be of even greater service to the amateur filmer than to his professional brother.

Finally, remember one thing: that color-filters work well only when they have clean colors to work on. One of the most common uses of filters is in darkening skies—and no filter will darken a hazy, blue-gray sky. Neither will they do it shooting too close toward the sun, for the scattered light from the sun tends also to make the sky less clearly blue. Correct exposure, too, has a tremendous bearing on a filter's action. Overexposure lessens the effect, while correct exposure, and exposure that is perhaps just a trifle on the low side, will accentuate it.

Altitude, too, has much to do with

Below—Lake Josephine and the Garden Wall



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filter-action. As you climb into the mountains, you will find that altitude and atmospheric conditions, together with the thinner, clearer air of the higher altitudes, tends to accentuate filter-action, so that any filter will produce a much more marked effect than it would under otherwise similar conditions at lower altitudes. In fact, when you are in high mountains, you can often get effects with yellow filters which are fully as striking as those you would normally get with a red one. END.

I Make a Documentary

(Continued from Page 227)

the people trudge along away from you.

You should have your own transportation ready so that you can push on ahead to the top of the trail for a shot as some of the people come into the settlement of Bottom.

Bottom is the seat of government for Saba. It is situated down in the bottom of an extinct volcano crater. To get a comprehensive view of Bottom, climb up on the Shoe, a high pinnacle on the ridge above. From here you look right down into the crater and see the break in the rim through which molten lava once flowed into the sea. The trail from the landing to the settlement follows this lava course as the way of least resistance.

Saba is seared with hard trails. Sabans walk and climb wherever they go—from house to house, to church, school, the store, post office or from their homes to the farm plots or cow pastures. There are no wheeled vehicles on Saba. A few donkeys help carry the loads but the owners have to spend a lot of time packing feed on their own heads to feed the donkeys! Several horses are shared by the government officials, the school-teacher and the doctor.

When the doctor goes out on a call, it is usually in response to a request brought by a fleet-footed boy who has raced across the country, up and down, to bring the message. The doctor mounts his horse and trots off with his boy running beside him at the same pace carrying the doctor's bag. This is a splendid chance for a dramatic sequence having all the elements to tell a forceful story of life and struggles on the Rock.

Saba is a friendly island. Even its houses, from behind flower-lined walks and fences, have a pleasant look. They are neat, comfortably furnished, small but adequate, and always seem to be freshly painted—inside and out.

Along the streets of Bottom you can pick up all kinds of shots illustrating the simplicity of government administration and daily life of the Sabans. The governor, a democratic person, walks to the office from his mansion (the only house in Saba with electric lights), nodding a friendly greeting or pausing for a chat with fellow citizens. At the police station an officer on duty faithfully strikes the hours on a crude bell. In late

afternoon this same officer prepares fourteen gasoline lanterns which an old darky takes out and hangs on the street lamp posts. They come down at nine, as most people are in bed by that hour.

Births, weddings, birthdays and deaths come in Saba as elsewhere. Try to film a birthday greeting from one neighbor to another. Special trays with sweets and flowers are delivered by a servant who proudly conveys the best wishes of her mistress. The servants from several houses like to assemble and descend upon the lucky house in a body.

The people in Saba are extremely polite and not at all curious, although they are eager and grateful for the chance to chat with any strangers. They will gladly pose or help you to make pictures that will show the world how Saba lives. In one yard may be an old lady grinding guinea corn or a group making casava bread. Next door a family will be churning ice cream with ice brought from St. Kitts, 38 miles away, or children playing with dolls and home-made wagons. Around the corner a man may be building a stout boat. Without exception they can tell you of relatives in the United States or of their own sojourn there.

Years ago Saban men realized the impossibility of making money on the Rock and many went away to earn a living in the outside world. They became famous as seamen, and even today many American ships have captains, mates and boatswains from Saba, while many other Sabans are harbor-masters along the northern-hemisphere waterways. Today the young men are still going away, but due to the change in the United States labor and maritime laws, this field is closed to them and they now go to the oil fields of Netherlands, Curaçao and Aruba.

There's a popular fallacy about Saba. It was told that years ago schooners were built on top of the rock and then lowered by ropes down over the cliffs to the sea. If schooners were ever built on Saba, they were built down on the beach. The Dutch are too clever and efficient to haul heavy timbers up tortuous trails to the top and then see the result of their labors smashed to bits in the pounding surf when they attempted to launch it.

But the completion of a small boat on Saba is worth filming. The boat is proudly painted and named by the owner. The whole town soon knows of the launching. Everyone gathers to help and to enjoy the event. About twenty strong men gather around; picking up the boat bodily, they set out with an even swing towards the sea. They always go through the village, even though it is out of their way. The fences, sidewalks and porches are lined with people, mostly women and children, to watch the boat pass by. All kinds of angles are available here. Set up in the boat and you will have a novel trucking shot as your camera moves along and interesting personalities come into view behind the faces of the men who are carrying the boat.



Today it is possible for a boat to be carried all the way down to the water over a wide, well-made trail. Years ago they made shortcuts across fields and down steep ravines using ropes when the going was too difficult. For pictorial reenactment there's no reason why you shouldn't make these short-cut scenes today as they are spectacular and afford many chances for dramatic angles.

When Sabans want to set an anchoring stake, they take a hard wooden log, sharpen its end and drive it into the ground. Two men raise a large flat rock above their heads then let go, repeating this action like a human pile-driver until the stake is set solidly. A rope is tied to the boat, a hitch taken on the stake and as a man with a steady hand and keen eye eases away, the boat is lowered down the cliff. Some go below to steady her while another takes position on the ridge to signal orders.

This is a sequence which will give you the chance to make all kinds of cut-in shots, effective long-shots and angles. After the boat has reached safety on the shore, the men come down. All hands take off their shoes, roll up trousers, gather around the boat and push her into the sea. They wave their hats and cheer as she rides the waves like a true Saba craft. Your final shot is then only waiting for you to grab.

Most of the little bits of farm land on Saba have been handed down from generation to generation. They are high up, on the slopes of the mountain above the settlement, where it is cool and the dew is heavy. Each little plot represents endless back-breaking toil in clearing off the rocks and dense, tough brush. The rocks have been formed into stout, well-defined fences. Old men and boys do most of the farming. They are up at three a.m. to do the chores around the house then, after breakfast, they start out. Always they lead behind them the family cow, a few sheep or goats and sometimes a donkey. The way up is long and hard over rocks worn smooth with use. They don't even stop to rest: they are used to it, as it is their life day after day.

At the family plot they first stake out the livestock to graze and then turn to for a long day of toil, hand-cultivating rows of vegetables that zig-zag between huge boulders too heavy to move. Then they gather firewood and enormous loads of fresh grass and weeds which they carry on their heads back to their homes.



It is almost nightfall when these men reach home, and after the chores and evening meal most folks are ready for bed and rest until three the next morning.

If you can follow one of these men to the farm and right along as he works, you won't have to stage anything but can get effective shots of life as it really is on Saba.

Saba girls are not as ruddy as the men but their complexions are fair and healthy looking. They spend most of their time indoors. From childhood they learn to do fancy Spanish drawn work and depend upon sales of it through the mails as their only means of livelihood. They soon become expert, sewing in all their leisure hours from house work. With the proceeds of their sales they clothe themselves in modish outfits copied from American fashion magazines. Some support the family also. Often a group of girls and women will meet at one house for a sewing-bee to exchange news and have a cup of tea.

If you select a house with a balcony that overlooks a settlement, you can arrange and film one of these sewing-ees. This is a splendid chance to make natural close-ups of the girls and also their work as deft hands draw a thread and make a stitch. A telephoto lens is valuable here. You can find the best locations for this sequence over at Windward Side. It is just the opportunity for you to feature close-ups of these girls of Saba so as to emphasize their hair arrangement, dress and faces.

While the seat of government is in Bottom, the center of population and social activity is certainly at Windward Side. It is larger than the settlement at Bottom. There are three principal stores here where the inhabitants get the necessities of life which are brought in from the outside. There are more houses, and the air is cooler and more conducive to farming. There is a bulletin-board in the center of the village, where the one mail crosses the other, which everyone must pass. Each day the policeman posts the official news of the island and religiously marks down on a slate the money used in exchange in dollars, guilders, francs and pounds. It is hard to understand why as there is no such thing as trading in world currencies, stocks or bonds on Saba, but the people like it and never fail to glance at the board as they pass.

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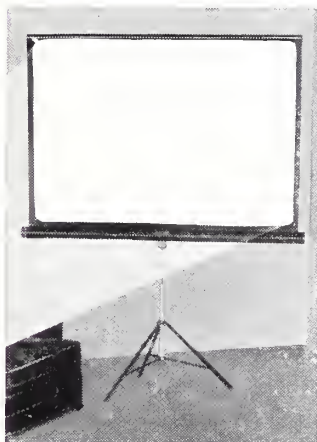


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The shots to be made here are general views of the policeman, close-up of the slate as he marks down the news and rates, full view of posting the slate, general view group of Sabans around the bulletin-board and close-ups of the men looking at it.

The first settlers of Saba did not have cisterns to catch the rain water as they do today. They packed all of their water on their heads from a spring two thousand feet down a steep, rugged trail to sea level. Today Spring Bay is a favorite picnic spot. All you need do is mention "picnic" and you can get an enthusiastic group ready. The same girls who seemed like delicate hot-house flowers

eagerly make up the party. They all have slacks, sweaters, peasant scarfs, big hats, walking shoes, culottes and bathing suits tucked away for such occasions.

They know how to prepare the lunch too. Alberta, the faithful negro servant who takes care of the Government Guest House, goes ahead with the supplies carried on the heads of several men. They take iron pots, tinware, bottled soft drinks, a baked ham, chicken, home made cakes, pies and tinned fruit, candy and ice. When the girls come out of the house ready to go, they look like any holiday group of girls in the United States. After you start, it will not be long before you feel as though you are

the hot-house flower as you try to keep up with these girls who negotiate the trail like mountain goats!

The trip down will give you a lot of set-ups to show again the character of Saba's terrain—rocky, dense and almost perpendicular. You will certainly see the possibilities of shots looking down, showing Spring Bay, crescent-shaped, white-fringed, and set in between rocky hills. Down at the bay, there's no sandy beach. Instead the half mile long, relatively flat, narrow strip is studded with boulders ranging in size from bowling balls to tank cars.

The foaming surf pounds the rocks relentlessly. The chicken stew will be tasty and everyone's appetite ravenous. If you are a true documentarian you will put your plate aside and get to the task of getting the spirit of the picnic on film—saving your epicurean talents for afterward.

After a rest in the scant shade of boulders or under low bushes, the party will be ready for the water. Swimming is beyond question, but if it is for the sake of Saba, the girls are game to try. If the men could negotiate the long trail with loads of water on their heads to supply life's necessities, then Saba girls are willing to do their part for movies today. The way back is longer and steeper and steeper and it will be dark before you are in the warm, homelike atmosphere of the settlement.

There are no hotels or boarding houses on Saba but there is a Government Guest House equipped with three bed rooms, a parlor, dining room, bath and kitchen containing a kerosene refrigerator. Linen is supplied and you pay for the laundering. Alberta, the housekeeper, will look after everything for a small fee of fifty cents per person per day. She

buys your groceries economically if your tastes are not too elaborate, and constantly entertains you with harmless gossip of the people of Saba and the guests she has cared for previously.

Saba is only about four miles square. The people all speak English and have an inherent admiration for things and persons American. While their days are full, life has little variety and they are ever ready to visit with and help an outsider who comes to do Saba some good. I know of no easier or better place to make a documentary film.

The underlying theme for a travelogue film of Saba should be one that is as old as time—life on a spot of earth where a people find family interest the controlling factor that guides their toil, pleasures and reverence from early morn till night. **END.**

Contest Films

(Continued from Page 228)

mittently to gain audience appeal.

If your trip covers two or more spots of interest, it is more to your advantage to enter the film of each location as a separate entry, provided that you have completely covered each location. As an example, you may actually gain more points by entering your Yellowstone scenes separately from your World's Fair pictures than if you tried to connect the two locations with a single continuity. Usually, the appeal of a travelogue is not as strong as a scenario and it behooves you to do all in your power to keep the "appeal" percentage as high as possible.

Documentaries and chronicles usually depend on photographic percentages for their ranking unless the subject matter is unusually interesting to a greater portion of an audience. Medical and dental

documentaries ordinarily place much lower in appeal than subjects of mechanical procedures, etc. The points gained in this group must almost always come from exposure, continuity, titling and camera technique.

Many films I have viewed have been of subjects which may be of great interest to selected groups but are not suitable for showings before a general audience. Farmers may greatly enjoy the latest technique of raising a pig, or a group of engineers may gloat over the latest sewage disposal methods—however, a general audience wouldn't particularly enjoy such subjects, no matter how perfect technically, especially after a hearty meal!

Above all, remember that no matter what kind of film you may be making simplicity of plot or subject-matter is preferable to complication if you want to build up audience-appeal. A third thread of story-idea, presented completely and with technical skill, will often win out over a more complex, but less skillfully-handled picture. This has been evident in many of the prize-winning films in THE AMERICAN CINEMATOGRAPHER'S International Amateur Movie Contests, especially in such entries as those of Clardy and Okamoto, in which interest was built up by a combination of a light story-idea with excellent photography and film craftsmanship. Another notable example of what makes a film "competitive" can be found in the prize entries of T. Lawrenson of Dundee, Scotland, and John Pohl of Cicero, Ill. Both of these filmmakers took essentially simple home-movie subjects—a child's Christmas or a holiday at the beach—and built winning films by *completely* covering action of sure-fire audience appeal, and presenting it with technical smoothness that made you forget you were looking at a movie.

Finally, before entering your film in any contest—local or otherwise—analyze it in the same manner a professional producer does his million-dollar 35mm. production. He previews it repeatedly, deliberately choosing audiences that aren't crammed with his friends and well-wishers. He seeks the comments of these spectators, and with each preview smoothes out the presentation of his picture—cutting here, building up there—until he has a picture he feels certain can stand on its own merits with any audience. Then—and then only—is he willing to show it to the critics and to his fellow film-makers.

Try this system of previewing out on your own films. Choose "average" groups—not photographers—and when you've gotten your film into shape that will please them, you can be pretty sure it will prove "competitive" in almost any movie-making contest in the world! **END.**

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Marlene Dietrich

(Continued from Page 229)

but I think it's as effective as anything I've seen on the screen."

Miss Dietrich's filming isn't by any means confined to travelogues, family record-scenes, and similar exterior picture-making. She is an expert at interior lighting, and frequently puts her lighting skill to work making impromptu featurettes when congenial friends drop in of an evening. It's quite an idea, that, for an evening's entertainment when bridge and similar conventional pastimes fail to attract, to turn to *ad lib* moviemaking. And there's a second evening's enjoyment in it, too, showing the results, edited and accompanied by appropriate gag titles.

Marlene has another set of films in her library which always command interested audiences. They're silent, Kodachromed versions of all her professional productions, photographed, as she puts it, "By Marlene Dietrich and associates." She takes her camera to studio and location with her, and personally films the scenes in which she does not appear. "For the scenes in which I have to appear before both my own and the studio cameras," she adds, "I set the camera myself beforehand. Then when I step into the scene, I can always find someone—usually one of the assistant cameramen—who will shoot my scene for me, during a rehearsal, of course, so that the noise of my Filmo won't interfere with the 35mm. sound-recording."

And that, by the way, gives an excellent indication of the sort of a person Marlene Dietrich is: find a star for whom the assistant cameraman will do such favors, and you've found a very real and 'regular' person—the sort of

man or woman you'd like, star or otherwise. There are plenty of 'big names' in Hollywood who, asking a favor like that of the assistants on their troupe, would find them unaccountably 'too busy' on studio business to bother with anything of the sort. But Marlene Dietrich's films are, as noted, complete and filmed by the star "and associates!"

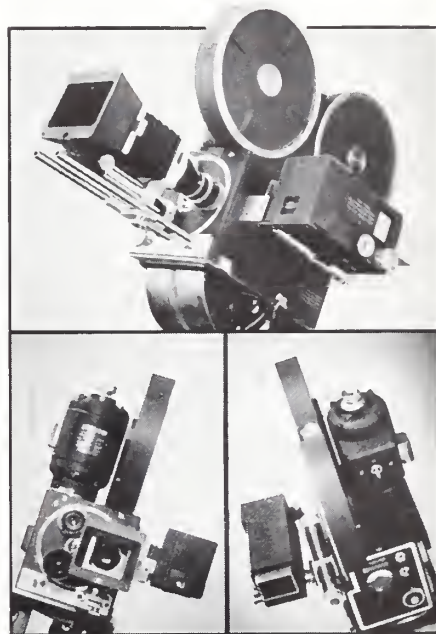
Speaking of these pictures, "Don't," she says, "jump to the conclusion that I make them with any idea of analyzing my work or learning how to play to the camera. I don't! I make them as a personal record, for my own pleasure and so that my daughter can in times to come always have a record of what I've done. As for playing to the camera, I've always done that. Remember, I got my start in pictures in Europe in the silent-picture days when playing to the camera was all-important. And since sound came in, remember I have worked very much with Mr. von Sternberg, who is as great a cameraman as he is a director. He always took great pains to impress on me how important are the cameraman and his camera."

But she agrees that 16mm. movies of this nature can be of inestimable value in training the younger generation of players. "So many of them," she says, "can remember only talking pictures! My daughter Maria is typical: she is sixteen years old—and she has never seen a silent professional picture! If she were a budding actress, like so many youngsters I meet in every studio, she would have no real conception of what the camera, unaided by dialog, can do in conveying ideas and emotions. I am sure that making 16mm. silent pictures would be of enormous value to young players like these."

"What do I think is the most interesting 16mm. picture I have ever made? Without a doubt it is one I made several

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years ago when my friend Josef von Sternberg was making a picture in Europe. He was in England for a long time, and I knew from his letters that he missed his beautiful home here in Hollywood. So I took my camera and lights, and went there and made him a complete Kodachrome film of his home.

"That was a fascinating photographic problem from beginning to end. Mr. von Sternberg's home is beautiful and filled with exquisite works of art—paintings, statuary, and the like. I photographed each of these pieces that were so dear to him, giving him close shots of each.

"This made a series of intriguing problems in lighting. Did you ever try to light a painting—? If your camera and lights are not in precisely the right places, all you will get is a glare as the light reflects from the painted surface. But if your lights and camera are handled understandingly, you can not only bring out the color and design of the painting, but the texture of the painted surface itself.

"Making this picture, and doing it so well technically and artistically that I could evoke praise from Mr. von Sternberg not merely because of the sentimental value of the subject-matter, but because he—a truly great film craftsman—thought my photographic technique was in itself good, made that the most satisfying of all the 16mm. films I have made."

Make no mistake about it: this interest in cinematography is no pose with Marlene Dietrich. Both in her professional work on the set, and in her personal moviemaking, she takes a serious, and highly intelligent interest in the camera and its manipulation. Cinematographers who have photographed her agree with this; she is one

of the few stars who can discuss cinematographic problems intelligently and authoritatively. Her interest in cinematography is so serious, in fact, that she would like to become the first lady member of the A.S.C.—and as her sponsors she would have every A.S.C. member who has ever photographed her!

Movie Ideas

(Continued from Page 231)

boy-friend. (At least no grass is growing under this golf widow's feet!) This chap, too, insists upon making violent love, to the girl's embarrassment and the dissatisfaction of the young man hidden behind the furniture.

However, the husband unexpectedly returns and is heard fitting a key in the lock of the door, whereupon the second boy-friend hides in a closet. Hubby has forgotten his golf clubs. Retrieving them, he spies the golf manual and recollects a new hand-hold he had studied at breakfast. He tries a practice swing on a ball, which flies over the davenport into the mouth of the hiding youth! Bewildered, the boy arises. The surprised husband is about to strike him with the club when the recipient of this belligerent attention remonstrates that his would-be assailant is holding the club incorrectly.

The husband is interested, and forgets everything in learning how to hold the club properly! After the instruction, he invites the clandestine caller to play a twosome with him. During this interim, the second boy-friend has fallen asleep in the closet. As the husband and the first boy-friend start to leave the room, the door of the closet flies open and the sleeping fellow is deposited on the floor at their feet.

The startled husband looks at him in amazement for a moment. Then, struck

with a brilliant idea, he makes this third man the caddy, and the three proceed out of the story! The wife is quite dejected at the loss of both her boy-friends. Sadly she seats herself on the davenport and a look of despair clouds her lovely face. Suddenly a slow smile begins to illumine her features. She lights a cigarette—takes a slow drag and exhales toward the ceiling. Carefully she powders her nose, then winking towards the camera she crooks a finger and begins to beckon.

The next scene includes the cameraman who is busily engaged in filming the girl who is still beckoning. Realizing that she is signalling him, he hesitates momentarily and resumes his shooting. The girl continues to employ her wiles then giving up, the cameraman shrugs his shoulders and proceeds to seat himself at her side. With a little insistence on her part, the cinematographer is induced to take part in a final embrace that fades out to end our story.

The action scenes for this picture were filmed during a single day. Titles were shot later. The scenes including the cameraman were my own contributions to the original radio story. The point is—listen in on the radio! You may hear just the gag you want to use in your next scenario.

During my earlier experience as a home movie maker, I filmed quite a number of scenes of a bridge party held in my home. These shots included the arrival and departure of guests, playing cards, the award of prizes and partaking of refreshments.

Later, while reading a well-known gossip column, I was struck with an inspiration for a story that could be filmed about this affair. The finished film is titled, "The Power of the Painted Word," and proceeds much in the following manner:

The opening scene depicts the housewife enjoying her daily paper. A paragraph in a column headed *The Town Tattler* draws her attention. It reads, "The writer of this column has noted that a certain member of the town set has attended many social functions but as yet has made no attempt to reciprocate."

From then on, great activity is shown. Invitations are written and posted. On the day of the party the house is thoroughly cleaned; foods are prepared and prizes are wrapped. Fatigued but happy, she sits down to await the arrival of the guests. It is here that the scenes of the actual bridge-party are fitted into the story. After the party, the hostess sits alone at the head of a long table littered with soiled dishes and the remains of the feast. Rather forlornly she shakes her head at the price she has had to pay to retain good social standing. The scene fades out.

Morning of the next day finds the erstwhile hostess arising early and rushing to read the morning paper. Hurriedly she skips through the pages until she finds the one she has in mind. 'Tis the gossip column again. Scanning the paragraphs, she is brought up with this re-

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mark: "The writer has just learned that the well-known member of the local set failing to discharge her social obligations recently departed for the East. However, several other members of this set have just entertained since I wrote of her, including Mrs. R. W. Teorey of West 39th Street. Need I say more?"

The fade-out of this story concludes a scene showing the dejected housewife crawling back into bed. Life is a bit hard at times!

Some months ago I planned to experiment with some trick camera-effects. However, I felt that as long as I intended to expose film, I should employ it as usefully as possible and so pondered for an inspiration. Consulting Webster's for a definition of the word "trick," I located the following sentence which gave me my idea: "To practice tricks, sleight of hand, or the like." We ordinarily ascribe such doings to a magician so I decided a purveyor of magic would perform tricks for me in my experiments. A 50 foot 8mm. picture evolved from this slim beginning presents itself much as outlined below:

The opener is of a house set in trees and shrubbery—well underexposed to simulate a night scene. Fade in and out, or dissolve to an interior shot of a bedroom (low-key lighting). A window is partially open and a muffled figure holding a jemmy in one hand is entering. He walks directly into the camera blanking the scene out in what might be called a body fade.

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The next camera set-up is in the living room. The intruder "fades in" the scene by walking away from the camera lens towards a desk in a corner. Arriving at the piece of furniture, he lays his jemmy on top, glances furtively about and switches on a light. (At this point turn on extra flood lamps to change lighting from low-key to normal).

He next tries to open a drawer in the desk, but finding that it is locked, reaches for his jemmy. As his fingers close about it, he is astonished to find it has suddenly vanished. (Stop motion does the trick. Merely have the burglar freeze as his fingers touch the instrument—stop the camera at the same time—remove the jemmy—then start the camera and action simultaneously.)

The next shot shows the housebreaker shifting his startled visage to another point on the desk top. A small jointed figure has gone into a dance. Suddenly its head disappears, and then its body vanishes. (Single frame animation.) The attention of the bewildered burglar is next shifted to another portion of the room by another eerie attraction. This time a small throw-rug on the floor is slowly rolling itself up, after which it too dissolves into thin air. (More single frame animation).

The terror-struck victim is now looking about for a quick means of exit. He feels a tug at his hat and as he reaches for it, the muffler about his throat trails off through the air. Wildly clutching for the scarf, his hat flies off in the general direction taken by the muffler. (Strong black thread secured to these articles of apparel and controlled by someone out of lens range will take care of this.)

The recipient of this strange reception has finally had enough. Swiftly moving towards the open window he climbs out and blends with the black of night as a figure suddenly materializes in the scene (more stop motion). This character is heartily laughing as he watches the disappearance of the uninvited caller. Turning towards the camera and still laughing, he draws a book from his pocket. In a close-up, he opens the book and as the cover becomes visible its title is seen to be, "How to be a Magician."

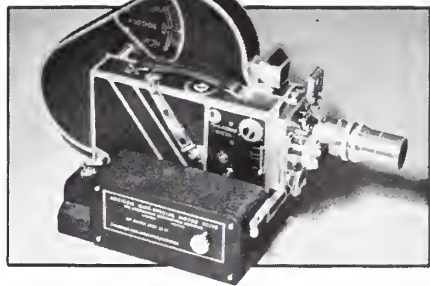
Many other trick effects can be incorporated in this story. The few given here merely illustrate the point. Just give your ingenuity a little play and you can proceed to any length desired.

The big point I'm trying to make is just this: all of these ideas came ready-made from the most commonplace sources. One came from a funny-paper; another from a radio playlet; the third from a newspaper gossip-column, and the fourth from a prosaic dictionary definition. Yet each of them contained the germ of an entertaining little home movie. So—if you're having trouble finding ideas for your films, don't look too far afield: movie ideas are all around you if you'll only keep your eyes open for them! END.

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Scenario

(Continued from Page 230)

frightened, saying:

TITLE:

"OH . . . ! DID I TELL BUSTER TO COME TONIGHT?"

Scene 30. Medium-shot—Mary and Buster. Mary moves to room center (OR SCENE CENTER). Buster makes self at home by throwing hat on one chair, top coat on sofa, and advances toward Mary with his flowers. CUT TO:

Scene 31. Close-shot—Mary and Buster. Mary glances back at closet. Buster, with one hand, prepares to hand flowers to Mary; with the other hand, he produces a ring with a huge stone. He is ready to gather Mary in his arms, when buzzer rings . . . CUT TO:

Scene 32. Close-up—Buzzer. Again . . .

Buzzer rings! CUT TO:

Scene 33. Flash Close-up—Mary. Mary gasps with alarm and raises hand to mouth to stifle cry of amazement. CUT TO:

Scene 34. Flash close-up—Buster. Buster blinks like an owl. The thought of anyone interfering with his plans is beyond grasping. CUT TO:

Scene 35. Medium-shot—Mary and Buster. Mary takes the reins just as Buster heads for hall to see who has the nerve to interrupt his session. She plucks him by coat-tail and pulls him firmly and rapidly backwards toward closet. CUT TO:

Scene 36. Close-shot—Closet door—Mary and Buster. Mary reaches closet door with her cargo, unlocks door, and pushes and swings speechless Buster, flowers, ring and all, inside and locks

the door. CUT TO:

Scene 37. Long-shot—Hall door. Pa enters arch of doorway, looking back and scratching head. Horace comes through door from hall, monocle clamped over eye, hands hat and cane to Pa and gingerly steps into room. CUT TO:

Scene 38. Close-shot—Pa. Pa has frozen in tracks, holding hat and cane like a St. Bernard dog, his eyes following the Englishman. Suddenly notices the visitor has made a hall tree out of him, starts to slam apparel to floor, thinks better of the move, places hat on his head, twirls cane like drum majorette, and exits a la Fifth Avenue. CUT TO:

Scene 39. Full-shot—Interior Living Room—Mary and Horace. Mary staggers to scene center. Horace glides to greet her, captures her hand, places an "old world" kiss on the upper dermis of the member with the grandiose air of a Knight. Mary curtsies, dumbly, and beckons him to sit. CUT TO:

Scene 40. Close-up—Buzzer. And once again—the buzzer! CUT TO:

Scene 41. Flash close-up—Horace. Monocle drops from eye like a trip hammer. CUT TO:

Scene 42. Flash close shot—Mary. Mary faces directly into camera, shrugs shoulders and with palms forward as if to say: "Who knows?" CUT TO:

Scene 43. Medium-shot—Mary and Horace. Mary snaps from stupor, snatches Horace by hand, sweeps him about in wide circle so that he falls full-length over foot stool. CUT TO:

Scene 44. Close-shot—Mary and Horace. Mary yanks and tugs at Horace to get him to his feet. CUT TO:

Scene 45. Close-shot—Hall door—Pa. Pa stands in center of door and shouts: CUT TO:

TITLE:

"JOE'S HERE . . . ! WHAT IS THIS A BLITZKRIEG?"

Scene 46. Close-shot—Closet door—Mary. Mary is shoving door home, turns key, and walks toward camera. CUT TO:

Scene 47. Medium-shot—Joe and Pa. Joe tweeks Pa's cheek, and Pa kicks Joe in the seat. Joe jumps and shakes finger at Pa "Tsk, ts!" CUT TO!"

Scene 48. Full-shot—Livingroom—Joe Pa, Mary. Mary slumps into chair, Joe advances to room center, shaking finger at Mary as if "I'm surprised . . . !" Pa follows him cautiously. Mary reacts with a fish stare. CUT TO:

Scene 49. Close-shot—Joe. Joe, calmly and carefully, places his hat and coat on the chair where Buster recently deposited his garb. He sees a stray, hair, removes same, again wagging that finger at Mary. CUT TO:

Scene 50. Flash close-up—Mary. Ogres like an eight year old at a cowboy opera. CUT TO:

Scene 51. Flash close-up—Pa. Swallows rapidly so that adam's apple chases up and down his throat. CUT TO:

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Scene 52. Medium-shot—Joe. Joe lights cigarette, shakes out match, places burnt stick on tray, expels cloud of smoke, and walks toward closet door. CUT TO:

Scene 53. Close-shot—Closet Door—Joe. Joe unlocks closet door, steps in and closes door for ONE SECOND ONLY. Door reopens, Joe thrusts head out through crack, waves gayly at Mary and Pa, and shuts door again. CUT TO:

Scene 54. Flash close-up—Mary. Mary closes her eyes, shakes head as if to clear the cobwebs, and again opens orbs with blank stare. CUT TO:

Scene 55. Close-up—Pa. Pa counts on fingers: one—two—three—four, and says: CUT TO:

TITLE:

"FOUR OF A KIND!"

Scene 56. Medium-shot—Mary and Pa. Mary has melted to chair. Pa, seeing daughter in this condition, thinks this is a good time to exit and starts tiptoeing from room and toward hall. Mary sees him, scrambles from chair, and catches Pa by suspenders. CUT TO:

Scene 57. Close-shot—Pa and Mary. Mary turns Pa around to face her and gestures toward closet, speaking: CUT TO:

TITLE:

"PA, GET THEM OUT OF THE HOUSE . . . !"

Scene 58. Medium-shot—Pa and Mary. Pa is hit by a gust of bravery. He thrusts Mary behind him, rolls up sleeves a bit higher, and with Mary bringing up the rear, starts marching in half-crouch toward closet door. CUT TO:

Scene 59. Close-shot—Closet Door—Pa and Mary. Pa and Mary are warily approaching the filled closet, step by step in comedy unison, when a cold wave hits them for they "freeze in their tracks." They focus their eyes on the door knob. CUT TO:

Scene 60. Close-up—Door knob. Door knob is slowly moving . . . CUT TO:

Scene 61. Reverse Angle of Scene 59—Close-shot—Pa and Mary. Pa's courage has suddenly failed, starts backing up, trips over Mary, and they both fall to floor in heap. CUT TO:

Scene 62. Reverse Angle—Pa and Mary—Closet Door. Pa and Mary start to get up, then sink back to floor. Buster emerges through closet door, minus shirt, but with necktie knotted about his undraped neck, flowers still in hand. Buster takes one sniff at flowers, advances toward "floored" couple, sprinkles posies over victims and exits. CUT TO:

Scene 63. Close-up—Mary and Pa. Mary and Pa turn head from left to right into CAMERA, in exact unison, as if following Buster's exit. Absolute dead-pan being registered. Then, with a jolt and fast, they swing head back to closet door. CUT TO:

Scene 64. Medium-shot—Closet Door—Pa and Mary. From the closet comes Horace. With all the dignity he can

muster, and clad in supposedly nothing but an Indian blanket draped about him like an Apache, he bows from the middle to Pa and Mary, the blanket falls slightly from shoulder and Horace, embarrassed, clutches the robe about him and hastily exits. CUT TO:

Scene 65. Close-shot—Mary and Pa. Pa tries to hide under rug. Mary is trying to refrain from fainting. CUT TO:

Scene 66. Close-shot—Closet Door—Joe. Joe comes through closet door with empty billfold in hand. He opens fold and turns it upside down to indicate "all gone," tosses wallet back through door, and walks toward camera. CUT TO:

Scene 67. Flash Shot—Pa and Mary. Still on floor, they cringe from camera. CUT TO:

Scene 68. Over Heads of Pa and Mary Joe. Joe shakes finger at Pa and Mary as if to say: "Tsk, tsks' . . . Is that the way to treat your guests?" Joe walks from scene. CUT TO:

Scene 69. Reverse Angle—Pa and Mary. Mary gets to feet; helps Pa rise. Pa starts to run out of scene. Mary again catches him, takes his hand, and with Pa following as meekly as a puppy-dog, they again advance on this mysterious closet . . . CUT TO:

Scene 70. Close-shot—Closet Door—Mary and Pa. Mary reaches closet door, looks in, and Pa catches her as she falls back in faint. CUT TO:

Scene 71. Medium-shot—Mary and Pa. Pa places Mary on floor, fanning her with his fingers like he would wave goodbye to Ann Sheridan. Mary comes to with a start, points to closet, and shoves Pa in that direction. Mary gets up, again bringing up the rear. CUT TO:

Scene 72. Medium Close-shot—Pa and Mary. Pa is looking for some weapon to defend himself. Sees nothing likely, so takes off shoe, gripping his "sole" in hand, advances on door. Mary is close behind, hand to mouth, expecting anything to happen. Pa looks in closet and halts . . . CUT TO:

Scene 73. Flash Close-up—Pa. Pa registers complete shock. Mouth drops open, eyes wide as a barn door. CUT TO:

Scene 74. Full-shot—Closet or Room Interior—Archibald. There in the middle of the floor is Archibald. Money and clothes, a deck of cards scattered around, all there on the floor beside him. Archie looks up at Pa and waves in typical Stan Laurel fashion. By the looks of things, the "timid soul" has been the master in a game of poker. CUT TO:

Scene 75. Close-shot Over Archie's Shoulder—Pa and Mary. Pa and Mary approach Archibald, bewildered still. CUT TO:

Scene 76. Full-shot—Mary, Archie, Pa. Mary takes her place on floor to Archie's left. Pa brings up the right side. CUT TO:

Scene 77. Medium close-shot—Mary,

Archie, Pa. Archie smiles blandly, reaches behind and produces a placard with the interrogation: "Who Wins Mary?" He points to sign, throws it back in mock scorn, takes hand full of green-backs and showers them around. CUT TO:

Scene 78. Close-up—Pa. Pa gulps . . . CUT TO:

Scene 79. Close-up—Mary. Mary gulps . . . CUT TO:

Scene 80. Medium close-shot—Mary,

8 Enlarged TO 16 Reduced TO 8

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Archie, Pa. Archie reaches behind him, produces another sign, holds it up and points to message: "I WIN, MARY!" Mary throws caution to Pa and throws her arms around her hero. Archie looks frightened—but likes it—throws sign in the air. CUT TO:

Scene 81. Close-up—Mary and Archie. Mary has Archie in the well known "clinch" and is just ready to kiss him, when Pa brings down a sign from overhead that blocks out Archie and Mary. The sign reads: "THE END." Pa beams and winks at the camera. Pa's head is directly centered over placard, and his chin protrudes over the edge. SLOW FADE OUT:

TITLE:
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Home Movie Previews

(Continued from Page 232)

respect, for the timing is of professional quality; the action moves along with the necessary speed, and the cutting allows no "dead spots" between salient actions. The cutting of the elderly pest's fall in which the impression of a sudden fall is clearly given without actually subjecting the actor to a real tumble, is a very clever piece of cutting.

"Nobby's" outstanding weakness is in uneven exposure. While this is not in this case too serious, it is a fault which should be and can be avoided. It would seem to us that the fault most probably lay in the filmers' methods of using their exposure-meter, especially as many of the faulty exposures were in interior sequences. We would suggest that before starting their next film, the two filmers work out a more standard system of taking their meter-readings. In general we would suggest, in making interiors for such a production as this, taking two separate readings: one on the face of the subject, from a distance of a few inches, and a second on the background. If both of these elements of a scene are illuminated to the proper exposure-level, the overall exposure should be correct. Since many of the faulty exposures are in the longer shots, while the closer shots seem generally well exposed, inadequate equipment may be a factor, though it seems more likely that meter-reading methods are still at fault, and that the long-shot readings were taken with the meter too far from the subject to give an adequate reading.

As has been said, the continuity, direction and cutting are almost perfect. However, we would suggest one or two minor flaws. Among them is in the sequence of "Mr. Budge's" arrival. He is seen throughout moving across the screen from left to right; then as he turns in to the yard, the camera-angle changes so that momentarily he seems going from right to left. This, while a minor flaw, is distracting; his motion should have been kept the same until he entered the house.

We might suggest, too, that to climax the picture, after "Budge's" indignant departure and his final excellently-timed fall on the banana-skin, that his final exit might have been filmed at a camera-speed slightly below normal, to heighten the impression that he was hurriedly leaving. As a concluding gag, too, we would suggest there would be a laugh in having young "Nobby," very well pleased with himself, stroll complacently out to watch the departing pest—and slip in his turn on the same banana-skin!

Following recent articles in THE AMERICAN CINEMATOGRAPHER, Joe Valentine, A.S.C., Al Gilks, A.S.C., Karl Freud, A.S.C., and several others are lined up for articles in "Popular Science." Seems like a sure way to crack other magazines is to let 'em see it first here!

Idea Exchange

(Continued from Page 234)

for handling a full 400-foot reel.

If you already have a set of hand rewinds, you can use one of them to hold the full reel that is being rewound. Otherwise, just build up a "dummy". a free-running shaft on any suitable supporting bracket. Mine is simply a piece of brass salvaged from a scrap heap and cut to size, with one end drilled to take the reel-carrying spindle, and the other provided with holes to take the screws that fasten it to the rewind baseboard. A wooden block or even an angle-section from Junior "Erector" set will do just as well.

F. B. DOOLITTLE.

Showcase

(Continued from Page 235)



Automatic Minislide Projector

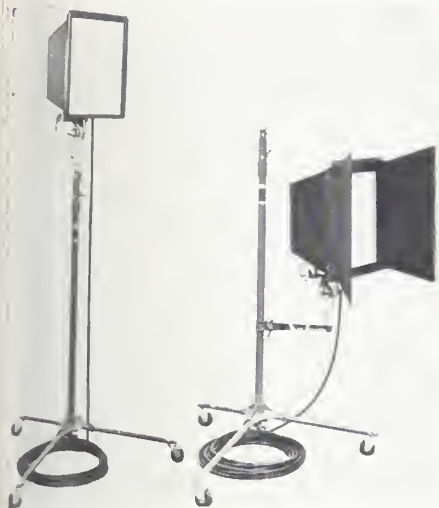
The makers of the well-known Academy spotlight this month announce an automatic 35mm. slide projector for use in commercial advertising, demonstrations, etc., with either Kodachrome or black-and-white slides. The unit is compact, measuring 13½ inches wide and 13 inches deep by 4¾ inches high, and weighing only 15 pounds. The case is cast aluminum, in a crackled finish, and an elevating-screw will raise the projection-lens up to 1¼ above the horizontal.

A motor within the unit drives an endless chain upon which are fastened 18 cadmium-plated holders for the slides. Each slide remains on the screen seven seconds, and the 100-Watt projection-lamp is automatically shut off during the change of slides. It is guaranteed by the manufacturers to present life-sized images with great brilliancy. The Academy products are distributed by the Frank A. Emmet Co., 2707 West Pico St., Los Angeles, California. The automatic projector retails for \$90.

Da-Lite Lowers Screen Prices

At a time when the prices of so many items of photographic equipment are being raised, the Da-Lite Screen Company, Chicago, announces important reductions in the prices of many sizes of Da-Lite Screens. Greatly increased demand in the past year is stated to have

resulted in economies in the manufacture of many of the sizes and made possible the lower prices. This constitutes the third price reduction on Da-Lite Screens in the past five years.



Bardwell-McAlister "Single Broad"

Since the development of today's fast films and such small lighting units as the "Dinky Inkie," a correspondingly small, low-powered floodlight has been needed as a "filler-light" unit. To meet this demand Bardwell & McAlister, Inc., of Hollywood, this month introduces a new unit known as the "Single Broad," (Type 12). The new lamp is fundamentally similar to the familiar two-lamp "broads" extensively used in studio lighting, but designed for use with a single 500-Watt or 750-Watt tubular globe. It will accept either the 500-Watt or T-20 Clear C-13 medium bipost or 750-Watt T-24 Clear C-13 medium bipost Mazda globes in either the regular 3200° K or the CP 3380° K (color photography) types.

A variety of accessories for use with the "Single Broad" are also available. These include various types of diffusers and glass windows, a "barn-door" which eliminates the need for "goboes" or "flags" and gives more positive control of light, and a special low bracket which, in conjunction with the "Single Broad's" regular double-riser stand, permits positioning the lamp at any height from 1 foot above the stage floor to a height of 1½ feet. The new lamp lists for \$45.

Agfa Reorganizes Midwest Distribution

In order to supply photographers in the central states with better and more rapid service on its products, Agfa Ansco is reorganizing the sales territory which has been served by its Kansas City branch. This move, made as a result of a study of transportation facilities available in the area, will permit faster delivery of Agfa Ansco products to customers in New Mexico, Oklahoma and Arkansas by supplying them through the Agfa Ansco branch in Dallas, Texas. Users of Agfa Ansco materials living in Colorado, Nebraska, Wyoming, Kansas and Missouri will experience improved service, as they will be supplied through the Agfa Ansco branch in Chicago, Illinois. The Agfa branch office in Kansas City is to be discontinued.

Concurrent with this shift in distribution, Agfa Ansco is raising its sub-branch at Dallas to full branch status and moving it from the present address at 2025 Commerce Street to new and larger quarters at 425 South Field Street. Operating from this new location, the Agfa Ansco Dallas branch will be headed by Calvin Wheat, a native of Texas, who is familiar to photographers in south central states, having served as an Agfa Ansco branch manager since 1929.

Longer Life For Wabash Superfloods

With the transfer of the manufacture of Superflood bulbs to Wabash's recently acquired Birdseye Lamp Division comes the announcement that the useful life of the Wabash Superflood bulbs has been materially increased. The life of the No. 1 Superflood has been stepped up from its previous span of two hours to a new total of three hours, and the No. 2 Superflood, which normally lasted six hours, is now good for at least eight hours.

Besides this increase in life, tests at the Wabash laboratory have shown that these new long-life bulbs maintain their efficiency much better than their predecessors. The usual tendency of bulbs to lose a considerable amount of their light-output after prolonged use, is said to have been minimized, with the result that the new bulbs, in addition to lasting longer, also have a more efficient life. There is no increase in price.

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Movie Clubs

(Continued from Page 233)

Shots" by Bill Weber; "America, the Beautiful," by Ralph Sprungman; "Cuban Holiday," by Les Olsen, and "North of Winnepag," by Wilford Anderson, with Lester Olsen as MC for the evening.

Member Carroll Michener reports that he and other club-members assisted in a novel project which could well be duplicated in other communities. This was the preparation of the Annual Report of St. Mark's Church as a movie instead of as a collection of dry figures, documents and speeches. Michener filmed chapel services, outdoor church-services, choir practice, activities of various guilds, missionary groups, etc. He used Super-XX 16mm. film entirely and produced a complete picturized report of the Church's activities in the form of a 400-foot picture. The idea is reported to be popular both with Michener and with the members of the Church Board, who now have a documentary record of the year's work which they don't have to listen to.

ROME A. RIEBETH.

Travel Program for S. F.

Scheduled for the April meeting of the Cinema Club of San Francisco was a program consisting almost entirely of travel-films. The film-fare included Jasper National Park in 16mm. Kodachrome, with comments by Robert Simmons; a 16mm. Kodachrome reel of the Canadian Rockies, Banff, Lake Louise, Kootenai Park, etc., and a black-and-white duplicate from another Kodachrome reel of Yellowstone National Park, both by Vice-President E. L. Sargeant; and a showing of the latest Castle Films release on the Greek War.

JOHN B. SMURR, President.

Washington S.A.C. Holds Auction

The Washington Society of Amateur Cinematographers is experimenting with a novel idea for swelling the fund for purchase of a club screen. At both the April and May meetings, the members have been invited to bring any surplus photographic equipment or odd film shots they may wish to donate to the fund. These articles are then auctioned off during the meeting, and the receipts used to swell the fund.

JOHN T. CHEDESTER,
President.

Leon Shamroy

(Continued from P. 215)

in almost every studio are making increased use of arcs in their lighting because the arc brings out textural details better in many instances than the Mazda. And it is all being hailed as new!

"Actually, it is going back to the ideas of years ago—but with the improvements we can gain from modern knowledge of lighting, film-making, and the

like. It's not new—but you can't say it's a backward step, either. To me it is just another phase in the search all of us are constantly making to find ways of making our pictures better and more dramatically real.

"I think the factor that will really bring us closest to this reality is color. Maybe not the color of today, but the color it is developing into. I have made several Technicolor pictures, and frankly I prefer working in color to black-and-white. There's an added realism—and an added artistic and technical satisfaction—to color which simply can't be approached in black-and-white. It is almost like a new dimension. That sounds as though I were a Technicolor press-agent, but it is a literal fact; I think any cinematographer who has ever made a modern color production will agree with me.

"And in this, I'm speaking not solely as a cinematographer, for color is coming to mean something at the box-office, too. If it didn't, you wouldn't find a great showman like Darryl Zanuck of 20th Century-Fox embarked on a constantly increasing program of Technicolor production. Maybe the public can't analyze its reasons for liking color, but I'm confident it is because color gives you at once greater realism, and greater artistic possibilities. Just consider, for example, two recent productions in which Alice Faye appeared: "That Night in Rio," and "The Great American Broad-

cast." I photographed both of them, so comparisons won't hurt. One was in Technicolor, the other in black-and-white. But after seeing Alice Faye in the Technicolor picture, and then seeing her in the black-and-white one, most audiences, I think, feel instinctively that she was more real in the color picture. They don't analyze it, but they feel instinctively there's something missing in the black-and-white film.

"I don't blame them. I did the black-and-white job soon after doing the Technicolor one—and every day as I looked at the rushes I was dissatisfied with the best we could do with Miss Faye in the black-and-white picture! In some instances, we were giving her technically better photography, I think—but because the element of color was missing, we all felt instinctively something was wrong.

"Perhaps the best indication of the way the public feels about this is the way amateur movie-makers have swung to color. They tell me that now about 90 per cent of the films you'll see in most amateur movie clubs are in Kodachrome. Well, I'm confident that as they get the economic end of color into closer parity with black-and-white, and the technical end simplified so you aren't slowed down by the bulkier three-film cameras and so on, we professionals are going to follow that same lead. And when we do, we're going to find ourselves doing better and more satisfying work than ever before!" END.

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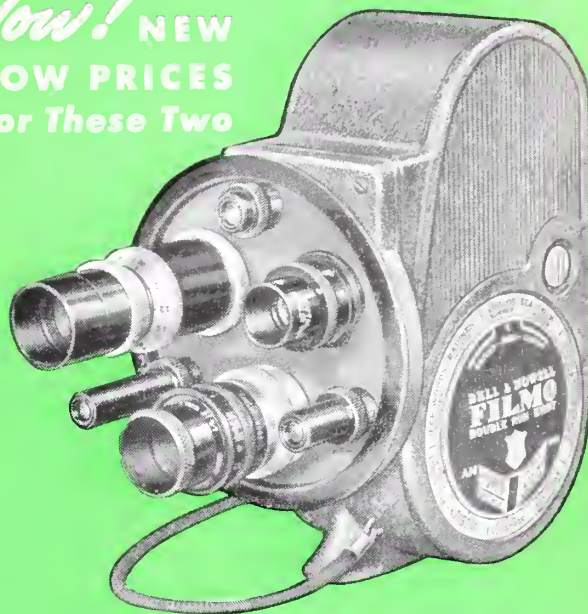
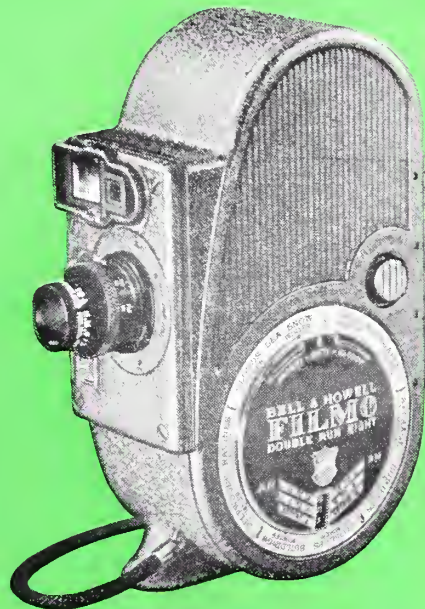
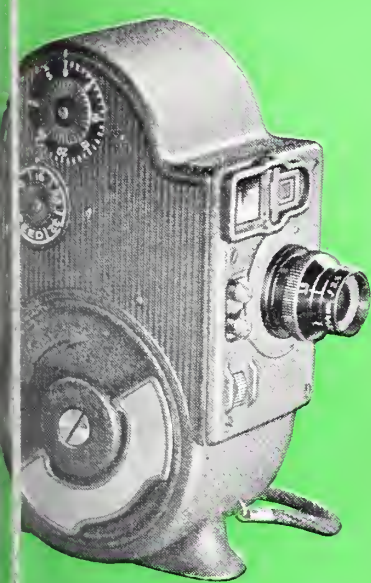
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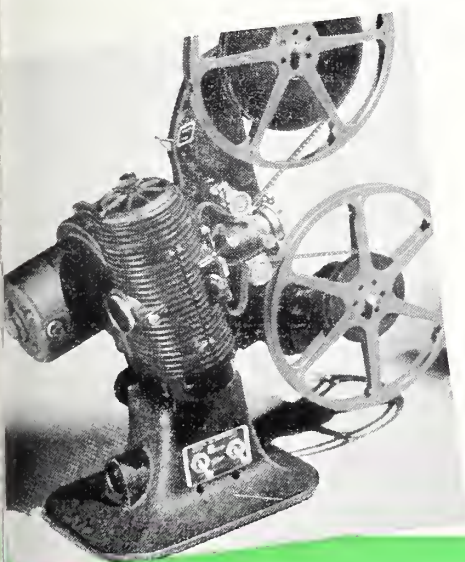
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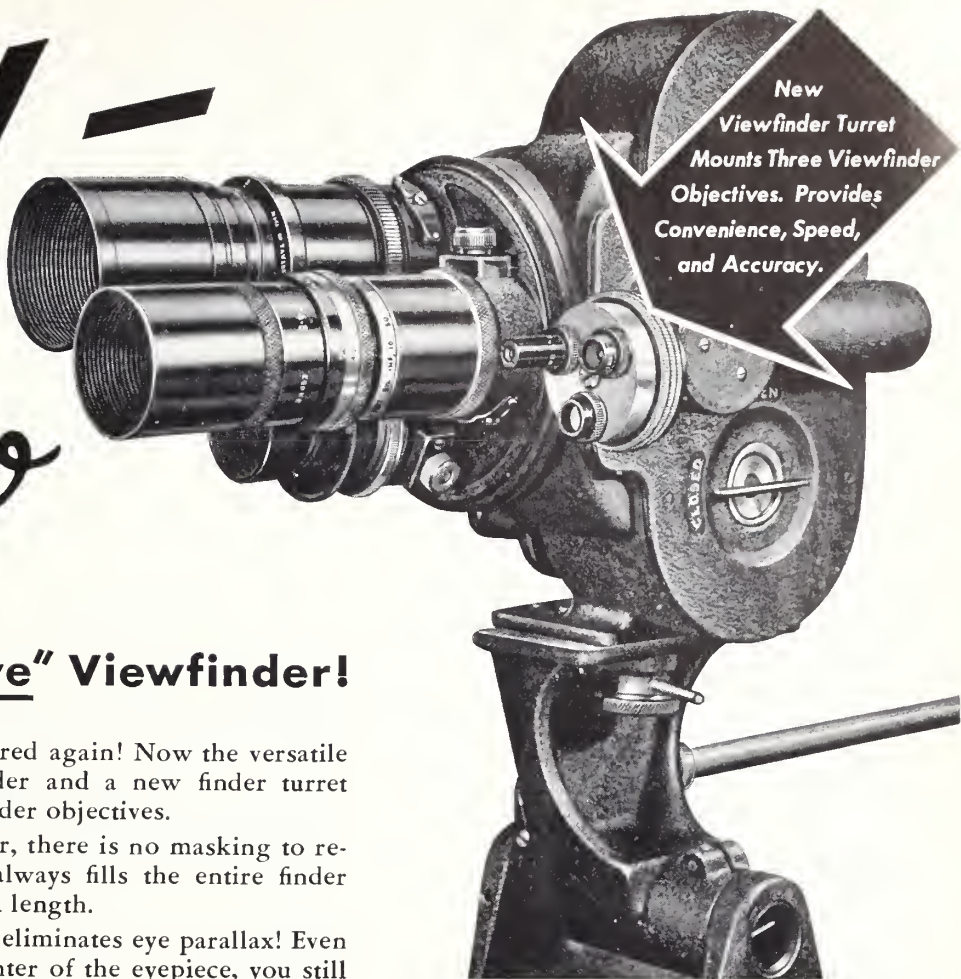
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THE MOTION PICTURE CAMERA MAGAZINE

VOL. 22

JUNE, 1941

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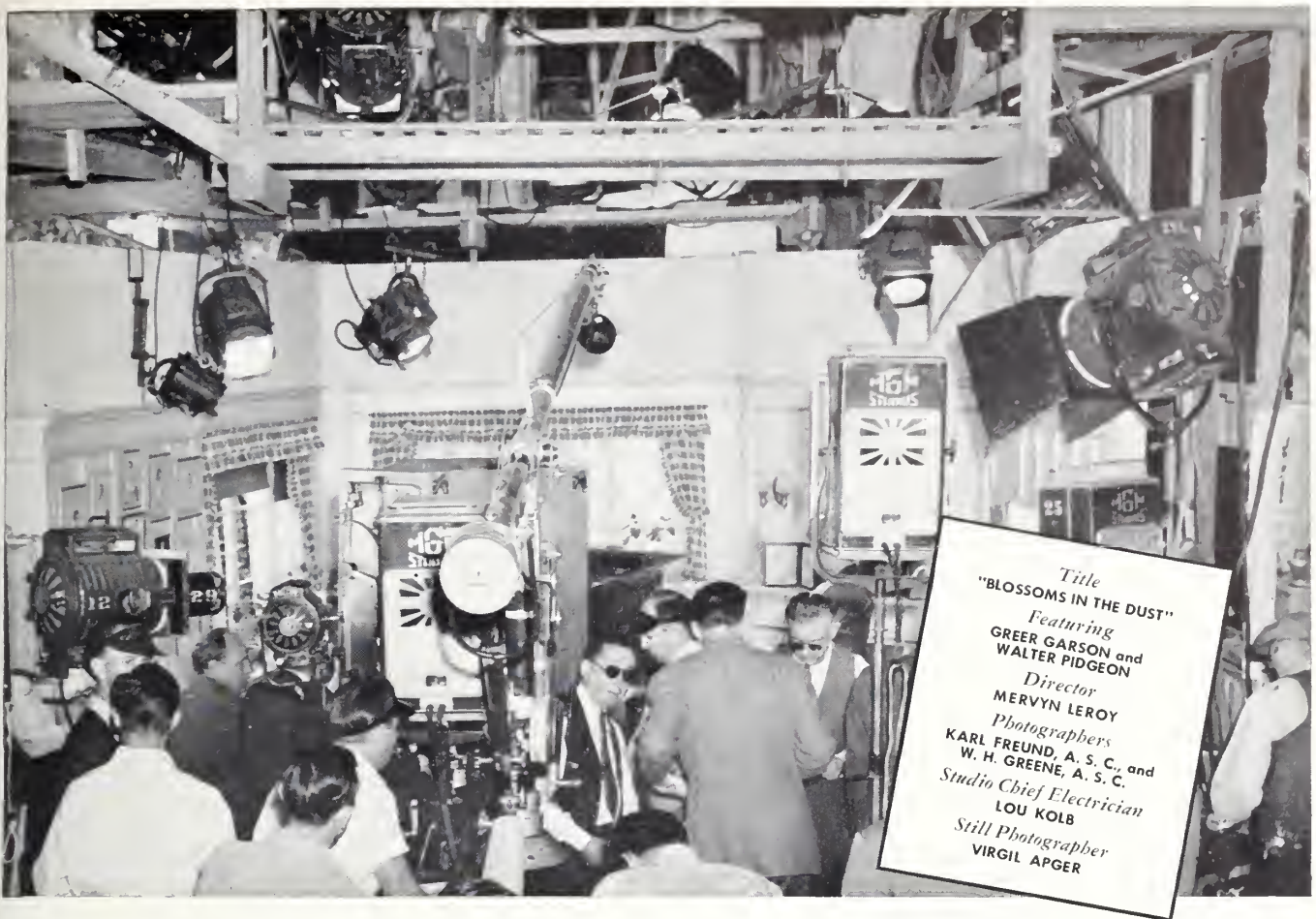
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The Front Cover

This month's cover shows the making of an impressive scene at the North Island Navy Air Station for Warner Bros.' Technicolor "Dive Bomber," with Bert Glennon, A.S.C., as Director of Photography. Note use of Technicolor cameras on high parallels and on camera-boom. Still by Schuyler Crail.



Title
"BLOSSOMS IN THE DUST"
Featuring
GREER GARSON and
WALTER PIDGEON
Director
MERVYN LEROY
Photographers
KARL FREUND, A. S. C., and
W. H. GREENE, A. S. C.
Studio Chief Electrician
LOU KOLB
Still Photographer
VIRGIL APGER

"INKIES" FOR TECHNICOLOR at M-G-M

● Here's a shot of one of the sets in M-G-M's new picture, "Blossoms in the Dust," showing how M-G-M shoots Technicolor with normal lighting techniques for sparkling effects, *using more and more G-E MAZDA lamps in inkies.*

This combination provides great flexibility and extreme compactness; helps them paint with light more effectively to create the results they want; helps them take advantage of Technicolor's full color and brightness range; makes it easier for

them to use a multitude of light sources in limited space.

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These are only a few of the many advantages which G-E MAZDA lamps offer you. Are you familiar with all their possibilities for better photography?



GENERAL  ELECTRIC
MAZDA LAMPS



CONTROLLING COLOR for Dramatic Effect

By ROUBEN MAMOULIAN

FOR more than twenty years, cinematographers have varied their key of lighting in photographing black-and-white pictures to make the visual impression enhance the emotional mood of the action. We have become accustomed to a definite language of lighting: low-key effects, with sombre, heavy shadows express a sombrely dramatic mood; high-key effects, with brilliant lighting and sparkling definition, suggest a lighter mood; harsh contrasts with velvety shadows and strong high-lights strike a melodramatic note.

Today we have color—a new medium, basically different in many ways from any dramatic medium previously known, whether the stage or previous black-and-white pictures. And in color, we have not only a new dimension of real-

ism, but also a tremendously powerful means of expressing dramatic emotions. Is it not logical, therefore, to feel that it is incumbent upon all of us, as film craftsmen, to seek to evolve a photodramatic language of color analogous to the language of light with which we are all so familiar?

This has, at least, been my conviction since the introduction of the present Technicolor three-color process made color in its modern sense possible. It was my privilege to direct the first feature production ever made in this process, "Becky Sharp," some seven years ago. While this assignment carried with it the excitement of pioneering in a new medium, it was not altogether a satisfactory one. My own connection with the picture, it will be remembered, followed

upon the tragic death of the very capable director who began it; and no creative artist, whether director or cinematographer, cares to take over an assignment that way, with inadequate preparation. Moreover, the story was, I am convinced, none too happily chosen as a vehicle for launching the color medium; many of the characters were British officers, and had necessarily to appear in scarlet uniforms; and red is the most aggressive of all colors.

Nevertheless, I enjoyed making "Becky Sharp," and in that first pioneering effort we all of us learned valuable lessons about color and its use.

During the intervening years, the Technicolor process has made many improvements, especially in efficiency and technical smoothness. For my own part, I have tried to advance with it in my understanding of color in all its uses. Hoping for an opportunity to direct another color production, I have tried to study color from every angle—the history of color; the psychology of color; the artistic application of color as found in the work of the great painters of the last four thousand years; painters have taught it to us; and something, at least, of the scientific aspect of color as regards color in pigments and light-values. In addition, I made it my business to see each successive Technicolor production, watching with interest the work in color of directors, cinematographers and art directors.

Finally Darryl F. Zanuck of 20th Century-Fox gave me the privilege of directing a Technicolor production, "Blood and Sand." In it, with the invaluable collaboration of cinematographers Ernest Palmer, A.S.C., and Ray Rennahan, A.S.C. (my pioneer partner with "Becky Sharp"), art directors Richard Day and Joseph Wright, and of course the technical cooperation of the entire Technicolor organization, I have tried to put into practical use some of the things I have learned about color.

The first and most obvious step, as I saw it, was to develop a color-plan which would coordinate the emotional aspects of action and dialog with the physical production and with the fact of color. The coloration of the settings and costumes for each scene and sequence must be keyed to the emotional mood of that particular action in exactly the same way a cinematographer keys his lighting to match the mood of the action. In the same way, the color-treatment of each sequence must be keyed to the dominant mood of the production, and planned so that the production, when assembled, will form a dramatically and chromatically coherent whole. Above all, every detail—sets, set-dressings, props and costumes—must be carefully coordinated with this plan and with each other.

How herculean a task this is, none of us realized until we attempted it. In making a black-and-white film, we are all too accustomed to accepting a chair as a chair, so long as it is of the correct design for a given set, and of some-



Left, Color-mood for the chapel scenes was drawn from the paintings of El Greco; Center, Color-contrast in costuming heightened character-contrast between Linda Darnell and Rita Hayworth; Right, the red scarf in Linda Darnell's hand heightened the dramatic effect of this scene. Below, top, Color-mood for this scene in the matador's dressing-room was inspired by Titian and Veronese; middle, the atmosphere of this sequence was inspired by Velasquez; bottom, this death-scene followed the mood of the 14th century Spanish primitives.

where near the correct tone of photographic gray to harmonize photographically. In Technicolor, the color, even more importantly than the form of the chair must be actively considered: it must harmonize with set and costumes both physically and psychologically. In a black-and-white scene, we can use, for example, a red-upholstered chair in reasonable confidence that its dark-gray rendition on the screen will not be objectionable. In Technicolor, that aggressively red-upholstered chair could very easily dominate not only set, but action, not merely distracting attention from the action, but very probably inducing in the audience an unanticipated, and possibly undesired emotional response, far different from the intended dramatic mood of the scene. It is the same with every smallest detail, even down to a handkerchief.

Fortunately, the story of "Blood and Sand" divides itself into six or seven clearly-defined sequences, each of which is sufficiently distinct so it can be seen to have its own specific dramatic mood, and which can be given its individual color-mood as well. The first of these is the prologue, in which the character of Juan Gallardo as a little boy—poverty-stricken but self-assured and resolved to become the greatest of matadors—is established. Then comes that depicting Gallardo, ten years later, as a rising young bull-fighter, culminating in his triumph in the Seville arena. Next comes his bedazzlement by the wealthy and worldly-wise Doña Sol. There is, too, a definitely individual mood set in the sequence in Juan's dressing-room immediately before the bull-fight. Following this, and recurring at the close of the production, are the sequences in the arena chapel. Similar, yet entirely different in mood, is the scene of El Nacional's death. Likewise, though they are related to some of the other sequences, the street and market scenes carry a distinctive flavor all their own.

Since "Blood and Sand" was a Spanish story, I was anxious to capture the authentic atmosphere of the country, not only in its literal, every-day reality, but also in its poetic essence. This atmosphere has been best expressed pictorially by the great Spanish painters. It was only fitting, therefore, that we should turn to them for inspiration.

After all, in making a motion picture, and especially a motion picture in color,

we are essentially making a series of paintings. What does it matter if we are not painting our picture with water-color or oil paint, but with colored light projected on a white screen? What does it matter if our picture moves and speaks: it is still fundamentally a picture. To what better source of inspiration could we turn than to the greatest masters of painting?

Not that any of us made a slavish attempt to imitate them! That would have been fatal. We were working in a different medium, expressing different thoughts. But we could—and did—turn to them as fellow-artists who knew the country and its emotions, for guidance in expressing similar emotions in our own medium. Their use of color, proven by centuries of approval, could guide us in choosing the colors we used in expressing similar emotions, painting comparable scenes.

Therefore for the early sequences of Juan's poverty-ridden childhood, we turned to the character paintings of Murillo. He set the mood for our sequence in such paintings as his "Young Spanish Beggar;" bronze-browns and blacks dominated.

The next sequence built progressively to the bull-ring scenes. For this, and for all scenes of violent action, we followed the style of Goya, with his dramatic and vivid colorings.

The scenes in the luxurious home of Doña Sol tried to capture the essential flavor, though not the detail, of Velasquez, the great master of light and shadow, who so flashingly depicted the richness of court life.

El Greco, the outstanding religious painter of Spain, supplied the inspiration and color-mood for the sequences in the chapel.

For the death-scene of Nacional, we sought to capture the flavor in form and composition of the 14th century primitives. This treatment happens to fit not only the mood of the action, but the character of El Nacional. He was himself a primitive—a simple, unlettered man, whose dying regret was that he had never learned to read or write.

For the scenes in Juan's dressing-room, we for once turned from Spain to the Italian, and particularly the Venetian painters of the 16th century. We tried to capture something of the luxury of color and strong suggestions of bustling movement that such painters as



Titian and Veronese put on their canvases.

For the street and market scenes, we essayed to capture something of the mood of Sorolla. And as an interesting side-light, for the bull-fight posters used in the picture we used originals by Carlos Ruano Llopis, the outstanding painter of matador and corrida scenes today.

In the costuming, we tried to express something of the essential qualities of each character. For example, there was Juan's childhood sweetheart, later his wife, Carmen, played by Linda Darnell. Many of her costumes were white—uni-

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The Mountain Comes to Mohammed

By SOL POLITO, A.S.C.

MOTION picture production has grown so enormously during recent years, both in technical complexity and in cost, that we literally cannot afford many of the practices which only a few years ago were regarded as production commonplaces. One of the most important among these is the practice of sending large production units on extended location trips. Our producers quite naturally want to put the best possible results on the screen; but they cannot afford to send an expensive company to a distant location where photographic and recording conditions are subject not so much to the control of cinematographers and recording engineers, but to weather—and chance. Even

if, from a purely budgetary standpoint, this may at times be feasible, in most instances the increasing pressure of releasing schedules renders it unwise.

For this reason there is an increasing tendency in every studio to film more and more of a picture's exterior sequences under the absolutely controllable conditions of a studio sound stage. This applies not only to scenes involving the projected background process, but to others in which such backgrounds are not necessary. In almost every studio, stage-built exteriors of a size and scope which a few years ago would have been considered incredible are now being accepted as a matter of course. In several plants new and increasingly large stages have

been built or are building for this purpose.

My own studio—Warner Brothers'—is, I believe, definitely taking the lead in this direction, though I am aware that in some recent productions of other producers, including Alexander Korda's "Illusion" and Howard Hughes' "The Outlaw," some stage-built exteriors of impressive dimensions have also been used.

The starting-point of this trend was probably the filming of Warner's "Captain Blood" a few years ago. For this, the entire deck and upper works of a seventeenth-century sailing-ship were built on what was then one of the studio's largest stages.

So successful was this that when last year it was decided to film "The Sea Hawk," the studio executives determined upon an even fuller use of stage-built exterior scenes. A special Marine Stage was built—the largest in Hollywood or, so far as can be learned, in the world. It covers more than two acres of ground, and measures 160 feet wide by 270 feet long, with a clear height of 85 feet from floor to roof-girders. The sunken floor of the stage forms a huge tank which can be flooded to a depth of twelve feet, requiring over a million gallons of water.

For "The Sea Hawk" two virtually complete sailing-ships were built on this stage. The smaller of them measured 135 feet in length, with masts 65 feet high, and weighed 127 tons; the larger one had a length of 165 feet and weighed 142 tons. Both ships were mounted on elaborate hydraulic rocker mechanisms which permitted them to roll and pitch both laterally and longitudinally, to duplicate the motion of an actual ship in any sort of a sea. The smaller craft was also mounted on wheels running along diagonally-placed rails in the stage floor, by means of which it could be brought alongside the other ship.

By way of a background, a huge cyclorama backing was extended almost entirely around the stage. Upon this, by means of the ripple and wave-illusion machine excellently described in the April issue of *THE AMERICAN CINEMATOPHOTOGRAPHER* by art-directors Anton Grot and Leo Kuter, a perfect illusion of rippling waves was projected.

More recently the same stage, with the smaller ship remodeled to represent a more modern craft, served as the setting for all of the exterior scenes for "The Sea Wolf."

Most recently, in preparing to film "Sergeant York," we were faced with the choice between going actually to the Tennessee mountains (or some nearer region offering a reasonably accurate facsimile of them) or of building a suitable mountain set in the studio. Due to my success in handling the large-scale marine exteriors for "The Sea Hawk" and "The Sea Wolf" on the stage, I urged upon the studio executives that the latter course would not only prove vastly more economical of time and money but would, by placing every photographic and recording condition under absolute control, enable us to put better and more convincing effects on the screen.

The decision was finally made to film these exteriors on the stage. As a matter of fact, the results on the screen proved so satisfactory that more and more scenes, originally planned for actual exterior shooting, were re-scheduled to utilize stage-built exteriors. While there is of course no way of proving concretely the actual saving this course involved, director Howard Hawks at the conclusion of the picture estimated that the immediately accountable cash saving was not less than \$25,000, and probably more. The saving in time was also considerable, for



during the period when we were making these sequences Southern California was visited by an unusually long and heavy series of rainstorms, which would have forced complete suspension of work on any actual exterior scenes.

This set is interesting from several viewpoints, and reflects great credit on the ingenuity of art-director John Hughes. It covered an area of some 135 by 250 feet, and duplicated an entire mountain valley, complete with rocky ridges and hills, 200 feet of mountain stream, and 121 pine, oak and cedar trees. A sloping, hillside field was provided, coated with an 18-inch layer of dirt deep enough to permit actual plowing, as required by the script.

One of the most spectacular features of this set was our so-called "revolving mountain." This was a 40-foot-high promontory which was mounted on a circular turntable 35 feet in diameter, and weighing in all 60 tons. By turning this mountain to different angles, we were able to get a very considerable variety of angles, for a slight change in the position of mountain or camera or both would change their entire relation to the background, and accordingly give what was for all intents and purposes a completely different "location." In addition, some ten "wild" set pieces—cliffs, mountainsides, peaks, etc.—mounted on casters so that they could be wheeled into place in any desired position, provided for yet additional angles.

The extreme distance was again provided by a cyclorama backing, against which sky and cloud effects for either day or night scenes could be projected.

Photographing scenes of this nature convincingly is primarily a matter of lighting. The problem divides itself,

however, into two distinct phases. First of all, a strong source-lighting is required on the foreground, to simulate natural sunlight in day-effect scenes, and moonlight in the night-effects. Secondly, an illusion of distance must be created in the background, suggesting perhaps miles of distance, even though the actual backing is only a few feet behind the foreground set and players.

Obviously there is but one lighting tool capable of meeting the needs of foreground source-lighting on such ultra-large sets as these. That is of course the modern high-intensity arc spotlight. No other light-source has anywhere near the necessary penetrating power. Even so, it must be admitted that on such huge sets even the big 170-Ampere H.I.-Arc spotlights—the largest modern arcs available — seemed ridiculously small. There were times when it seemed that one of these powerful lamps, projecting its beam down on the set from a catwalk 150 or 200 feet distant, was hardly more powerful than a pocket flashlight!

A battery of these units, however, with their beams concentrated to a comparatively narrow, intense spot, and carefully positioned so as to parallel but not overlap each other, produced the desired effect.

As a matter of fact, I found several distinct advantages in this technique. Obviously, by having several batteries of these lamps placed along different sides of the set, I could recreate the lighting of any desired time of day—morning, noon, afternoon or evening—regardless of what the clock might actually say. We frequently found ourselves spending the morning filming scenes played in afternoon lighting and then after lunch, with the lighting re-

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Sixteen Millimeter TEACHES AIRMEN TO SHOOT

By REED N. HAYTHORNE, A.S.C.,

Washington Staff Correspondent

SIXTEEN millimeter is teaching U. S. Army, Navy and Marine Corps pilots and aerial gunners to shoot—and shoot straight—against the time when bullets, rather than pictures, may be the required ammunition! Aerial gunnery is something that cannot be perfected on a conventional target-range or by pot-shooting at an unmanoeuvrable target-sleeve towed by another plane. If aerial gunnery is to count under actual combat conditions, it must be practiced and mastered under closely simulated combat conditions—actual dog-fights, with plane pitted against plane, diving, circling, jockeying for position with the whole wide sky as a battleground.

Using real guns loaded with actual bullets for this airfighting practice is obviously impractical, so American ingenuity has substituted the camera-gun—a unit identical in appearance and operation with a real machine-gun, but shooting 16mm. pictures instead of bullets. A bull's-eye scored with one of these picture-guns may not be as fatal as one scored with a bullet, but from the gunner's point of view, it is scored in exactly the same way—and when the film is developed the evidence of good marksman-

ship is fully as conclusive!

The most famous of these units is the Type CG-16 camera gun made by the Fairchild Aviation Corporation, which has been in use by the U. S. Military Aviation services for more than eight years, and which is also used by the air forces of twenty other nations. In appearance, size, weight and mode of operation this camera-gun is an almost perfect duplicate of the regulation Browning or Colt aircraft machine-gun, and it may be fitted in any installation which under wartime conditions would mount such weapons.

But in spite of its lethal appearance, this camera-gun is at heart a precision-built 16mm. camera. Underneath the gun's dummy barrel is an f:3 lens of moderately long focus through which the actual shooting is done. This lens is locked in focus at the factory, and provides an acceptably sharp image of everything from 25 feet to infinity. The diaphragm setting is adjustable, and may be reached through a convenient, small port in the side of the gun-case; this may be done either on the ground or in the air, and because of the comparatively high speed of the lens and the high speed of the film used, good pictures are possible

under a remarkably wide range of conditions.

The camera unit is mounted in the gun behind this fixed-focus lens. It appears to consist of a specially-modified "Simplex-Pockette" magazine cine-camera, minus its lens and sundry other conventional features, and of course with modifications which permit its use as a part of the gun unit. This camera unit is placed in the gun in what would be, for a conventional camera of this type, an upside-down position, in order to center its aperture in the desired position behind the lens.

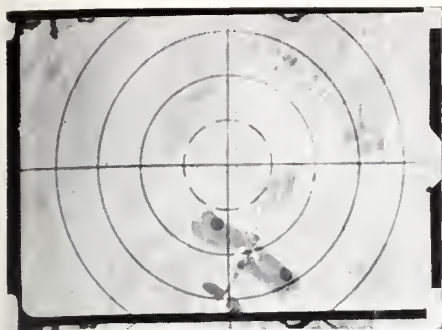
Above the lens is a special time-recording unit consisting of a special split-second watch with two large dials—one a conventional hour-and-minute watch dial, and the other a specially large split-second dial—and a celluloid data-card upon which can be written the name of the pilot or gunner, and the date. By means of a special prism system the watch and data-card are photographed automatically at the end of each simulated burst of fire.

In use, the camera-unit is loaded in exactly the same way any ordinary Simplex camera is, with a standard Eastman-Simplex 16mm. film-magazine which may contain either negative or reversal film; super-panchromatic being of course employed. The camera-unit is then wound, and the unit is placed in the gun. The design of both camera-unit and gun-unit have been so worked-out that it is impossible to put the magazine into the camera or the camera into the gun in any but the correct way, so no special photographic skill is required of either the flying gunner or the armorers and mechanics whose duty it is to load and maintain the camera-guns.

Once in the air, the pilot or gunner can forget he is manipulating a camera, for the device operates exactly in the same way as a regulation machine-gun. If it is used in a flexible gun-mount, as in the gunner's cockpit of a two-seater observation plane or bomber, the gun is equipped with double spade-type hand-grips identical with those of a standard machine-gun, and "fired" by the regulation type of trigger. It is aimed by means of a ring-type rear sight and bead front-sight identical with those used on any aerial machine-gun. If the gun is installed in a fixed mount, as in a pursuit plane, it is of course aimed by aiming the whole ship, and "fired" by means of a trigger attached to the pilot's stick; this in turn operates an electrical contact and a solenoid release.

The camera-gun normally "fires" at the standard silent-picture rate of 16 frame-exposures per second, though it can be slowed down to 12-frame speed if necessary to compensate for unusually unfavorable weather-conditions. However, with the fast lens and the superpan film used, 16-frame speed is usually adequate. To offset the atmospheric haze generally encountered in all types of aerial photography, a "minus blue" yellow filter is built into the unit.

So that the accuracy of these pictured



Frame enlargement from gun-camera film.

shots can easily be determined, a small glass plate upon which is engraved a reticle system of cross-lines and concentric circles is placed directly in front of the aperture. As the illustration shows, this photographs the reticle system on each frame of film.

Photographing the watch and data-card at the end of each "burst of fire" is done automatically, as has been indicated. A prism system is dropped into place automatically in front of the lens, and the record is photographed on the last frame of film. Illumination for this is provided by four tiny flashlight-bulbs powered by three standard flashlight-cells.

Most recently, for fixed machine-gun installations in ultra-fast pursuit ships which may, like Britain's famous "Hurricanes" and "Spitfires", have as many as six or eight fixed machine-guns firing forward from positions in the wings, another special camera-gun, known as the Type W-7, has been developed. This does not look in the least like a machine-gun, though it operates in essentially the same manner as the earlier gun-camera. Instead it is a neatly streamlined aluminum housing made expressly for mounting on or even in a fighting-plane's wing. It is of course operated by remote-control, and in this installation the camera-unit appears to be mounted lying on its side; this, of course, is an unimportant detail since the essential thing in these pictures is merely the relation between the target-plane and the reticle system which indicates hits and misses.

During the eight years these camera-guns have been in use, in the course of which thousands have gone into service in this and other countries, many detail improvements have been made in the various mechanisms. Special electric heaters have been developed to prevent the extreme cold of the four-, five- and six-mile altitudes at which modern air-battles may be fought from interfering with the operation of the guns. The effect of the plane's vibration on the various parts of the gun has been studied, and wherever necessary, the parts thus affected "souped up", while a completely special, sturdy and accurate Hamilton watch mechanism has been evolved. As a result, America's camera-guns are regarded as the most unfailingly reliable units of their kind in the world.

For use in the field, a special Stinemann developing system has been made

for developing the 16mm. super-speed panchromatic negative usually used with these guns. The Stinemann racks used have a capacity of 50 feet of 16mm. film, so that two camera-gun "loads" may be developed at the same time. These "loads," by the way, are usually 18½ feet in length, though the full capacity of the magazine is 25 feet. The 18½-foot "load," however, is usually deemed more convenient, and it permits making more than 740 frame "shots," which is more than enough for most purposes.

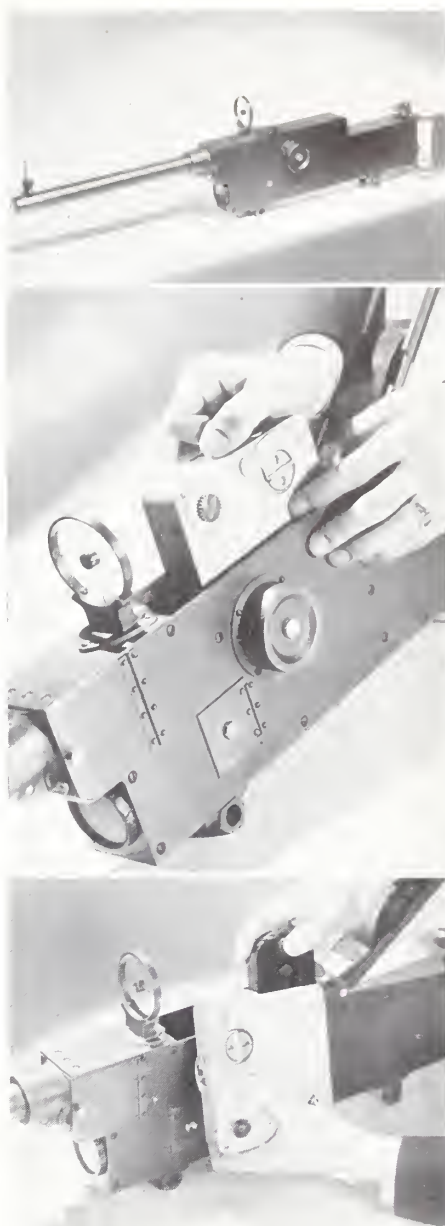
Two methods of studying the camera-gun pictures are commonly employed. Since careful study of each individual shot is desired, rather than the ultra-quick "flash" that would be obtained by normal-speed cine projection of the incredibly few frames that could be shot as two 400-mile-an-hour fighting ships pass each other, individual-frame "still" viewing is preferred.

Where it is desirable to project each frame's image onto a comparatively large screen, as in classroom study or detail analysis of a gunner's shooting, a special projector has been developed by the Fairchild engineers. This is essentially a combination of the conventional miniature slide-projector with a means of carrying 50-foot reels of 16mm. film and moving it frame by frame. A compact lamphouse similar to those used in mini-slide projectors is used, with a highly efficient optical system. Since the lamp is of relatively low voltage, a given frame may be held on the screen as long as necessary. The little device will project an excellent picture up to about 30x40 inch size.

Where only one or two people may have to study a film—say the gunner and the officer in charge or the instructor—a standard Eastman 16mm. film-viewer of the non-motion type is used. This is mounted on a handy base, with a small pair of Bell & Howell rewinds which, incidentally, are mounted in an inclined position, so that there is a minimum of twisting the film in threading.

There's a very romantic story behind the introduction of these camera-guns. Back in 1932 Captain A. E. Nesbitt took the first gun to Washington, to show it to the heads of the various Service departments involved. But, as might be imagined, he found it rather embarrassing to carry it around, as it resembled a real machine-gun so closely—and despite the influence of gangster movies, carrying a full-sized machine-gun around the streets and offices of a modern American city is one of those things that simply isn't done. So he left it for some time in an office in the Navy Department.

There, quite a few officers inspected it and quite literally passed it by. But one day, an officer more far-sighted than the rest looked it over. He was Commander Forrest P. Sherman of the Navy, and in that first model he saw worthwhile possibilities. He called Capt. Nesbitt immediately, and to make a long story short, in 1933 the Navy ordered three of



Top, the Fairchild gun-camera; center, inserting the camera-unit; bottom, loading the camera-unit.

the guns and sent them to various stations for testing.

These first tests, while they revealed some initial "bugs," also thoroughly proved the practicability of the camera-gun idea, and of the Fairchild gun in particular. As a result, ten more were ordered, and before these were delivered, the Navy Department put in an order for 100 more. In 1934, the orders started to come in batches of 300 and more, and since then, thousands have been put into service. No figures are available, naturally, as to the number now in use or being made for use in the vastly expanded air training program of our defense forces, but it is certain that the machine-gun camera is playing a very vital role in making America and other democracies increasingly capable of self-defense in the air, and all of

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Karl Struss, A.S.C.,
(second from right)
making the difficult
Technicolor shot de-
scribed.

camouflage. His superiors were less far-sighted—but today, so we understand, aerial color-photography is one of the "latest developments" in penetrating camouflage—!

A decade ago, firmly established as one of the "greats" of the cine-camera profession, Karl felt the need of a certain type of lamp with which to get a soft, yet characterful and controllable lighting on the face of the star he was photographing. No such lamp existed then—but it does now. Karl's "Lupe," a funnel-shaped, focusing reflector carrying a tubular, 1000-Watt frosted globe and mounted on a multi-jointed arm so it can be placed in any conceivable position, has become a universally popular instrument for face lighting.

Another important cinematic development for which Struss' fondness for private photographic experimentation is responsible is the trick, used in such widely differing productions as musicals and horror films, of turning a normal-appearing make-up into blackface by means of carefully coordinated make-up and filtering. The trick, once you know of it, is simplicity itself: use a long graduated filter shading from red in one end to an absolutely complementary green at the other. Then make up your actors' faces with cosmetics which when viewed through one end of the filter—say the red end, photograph white, while through the complementary-colored green filter, they will photograph black. The amazing change is made with no more effort on the part of the camera-crew than sliding the long filter across the lens!

As a matter of fact, Karl considers a scene in his present film, Paramount's Technicolor "Aloma of the South Seas," as far more difficult than these filtered trick-shots. The scene begins with Aloma, as a child, sitting beside a lagoon and singing. The camera dollies up to her, around and down to show her reflection in the still pool. A nut drops into the pool, breaking up the reflection. When the water quiets down, Aloma, now grown to womanhood and played by Dorothy Lamour, is mirrored in the water. And to close the scene, the camera dollies back again on its previous course—up, around and back.

Doing this in synchronism to pre-scored music, with the lighting complications of a big stage-built exterior set, and the added physical handicap of the big and somewhat unwieldy Technicolor three-film camera made that, in Struss' estimation, the most difficult single scene in his twenty-two year career as a cinematographer.

During that career, which has run the cinematic gamut from the old-time ortho-film "flickers" to today's Technicolor, Karl Struss has proven himself not only a technician par excellence, but one of the industry's most versatile camera-artists. He shares with Charles Rosher, A.S.C., the distinction of being

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Aces of the Camera

VI:

KARL STRUSS, A.S.C.

By WALTER BLANCHARD

DIRECTOR of Photography Karl Struss, A.S.C., has the gift of an insatiably inquiring mind. He is never satisfied until he knows, from personal experience, the why and wherefore of things. If you tell him that a thing is impossible, or that it must be done so, because it always has been, he probably won't argue with you, but he almost certainly will devote his spare time to experimenting with the idea until, one way or the other, he has proven it to his own satisfaction.

That inquiring mind of his has been responsible for a lot of useful things in photography. More than twenty-five years ago, for example, as one of the nation's foremost commercial still pho-

tographers, Karl decided he wanted a soft-focus lens of a certain quality that lens-makers told him was impossible. Far from being discouraged, Karl tackled the problem himself, experimenting with every possible optical combination until finally he got the result he wanted—a soft-focus lens which at the same time provided a foundation of an essentially sharp image. And today, more than twenty-five years later, one of the world's most famous lens-making firms still lists the Struss Pictorial Lens among its finest products.

Later, as a U. S. Army photographer during the last war, Struss advocated the idea of using natural-color photography as a means of seeing through

SINCE their introduction a few years ago, ultra-fast negative films like Eastman's "Super-XX" have been generally regarded as distinctly special-purpose emulsions. Their manufacturers have been at great pains to stress this fact, pointing out that these emulsions were designed primarily to give newsreel and other cinematographers working under extremely unfavorable lighting conditions the utmost in speed, though at some sacrifice in such other qualities as grain-structure and contrast. The manufacturers and their technical experts have repeatedly stressed that they consider their so-called "production-type" emulsions, of which Eastman's "Plus-X" is typical, as being much better suited to the requirements of every-day production cinematography.

These production-type emulsions are undeniably excellent. They virtually revolutionized studio cinematography when they were introduced a few years ago, for they combined two highly desirable characteristics—high speed and fine grain-structure—in a way that had previously been considered impossible. They had at least twice the speed of the fastest emulsions previously available, while at the same time evidencing fine-grain characteristics equal or superior to those before associated only with extremely low-speed films.

But in addition to these desirable qualities, they also presented at least one which was, to say the least, less pleasing. Regardless of manufacture, all of these film products showed a very considerably increased contrast. During the first year or so that these films were in use, virtually every discussion of the subject centered around the fact that using these films demanded a radically different light-balancing technique. Highlights had to be lit much more softly than with earlier films, and even so there was a constant danger of over-lit, "washed out" highlights. Shadows required specific filler lighting if detail was to be preserved. In other words, the light-balance used to obtain any given effect had to be much flatter than any of us were accustomed to using, and the margin of inherent latitude in the film was extremely narrow.

During the past year or so, several cinematographers have experimented with the use of super-fast emulsions like "Super-XX" as a production film. Among them may be mentioned such leaders of the camera profession as Joseph Valentine, A.S.C., who pioneered the idea; Gregg Toland, A.S.C.; William Daniels, A.S.C.; and Rudy Maté, A.S.C. I have myself used this film for several recent productions.

The results certainly justify this theoretically unconventional practice. Some of the best-photographed productions of the past year have been made on "Super-XX." Among them may be mentioned "Spring Parade," with which Joseph Valentine deservedly obtained Academy Award nomination; Toland's "Citizen



Super-XX for "Production" Camerawork

By VICTOR MILNER, A.S.C.

Kane," photographically perhaps the most discussed production of the year; Daniels' "So Ends Our Night" and "Back Street," Maté's "That Hamilton Woman!" and "Flame of New Orleans," and among my own recent releases, "The Man Who Lost Himself."

It should be clearly understood at the outset that the purpose in using this super-fast film is *not* to take advantage of its considerably increased speed. Indeed, in most instances I believe that illumination readings taken on any of the sets mentioned would indicate that the light-levels employed were little, if any, lower than the same cinematographers would employ using the conventional "production-type" films. They might in some cases even be slightly higher.

This is explained at least in part by the special laboratory treatment generally given this film when used for such purposes. As is well known, the manufacturers' instructions for handling these ultra-fast films to gain the fullest pos-

sible increase in speed call for giving the negative roughly 25% more development than the conventional "production-type" negatives. This added development builds up the maximum negative density. But it also tends to increase the grain-size.

If, on the other hand, the negative is given development shorter than that usually prescribed, while a considerable part of the extra speed is lost, the grain-size is materially reduced. As a matter of fact, those of us who have utilized "Super-XX" for production camerawork are convinced that, given this type of processing, its grain-size is little, if any behind that of such "production-type" films as "Plus-X."

The advantage we gained from using "Super-XX" for this purpose is therefore not speed, but quality. As has been pointed out, these super-speed emulsions all have a much flatter contrast than do their companion "production-type" products. Under some con-

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Toland Tops Preview Poll

Gregg Toland's sensational "Citizen Kane" romped home an easy winner in the April Preview Poll of the Hollywood Reporter. Second place went to Ray June, A.S.C., for his excellent photographic work bringing "Ziegfeld Girl" to the screen. Rudy Maté, A.S.C., ran a very close third for his glamorizing lens-work on "Flame of New Orleans."

Len Smith, A.S.C., is too busy these days to take his much-deserved bows for his achievements Technicoloring "Billy the Kid." Reason is he's busy solo-piloting "Smiling Through," also in Technicolor.

Phil Tannura, A.S.C., is wearing a smile two sizes bigger than he is, account of a nice, new Columbia term contract. Inking that document caused a quick triple-play on the Gregory Ratoff picture, "Tonight Belongs To Us." Columbia called Phil home to do the Fred Astaire-Rita Hayworth musical, "You'll Never Get Rich." Ratoff then borrowed Arthur Miller, A.S.C., to carry on for Phil, but a few days later Mas-sah Zanuck called Artie back to lens "How Green Was My Valley," T.C.F.'s big special. At last reports, Harry Stradling, A.S.C., was holding the fort on the Ratoff epic.

Over at Paramount, Ted Tetzlaff, A.S.C., seems to be making good as a director. He finished his first, "World Premiere," and immediately producer Sol Siegel assigned him to another—"Glamour Boy." What titles that man gets—!

Sid Hickox, A.S.C., just got back from a tour all around the eastern and southern edges of these United States in time to draw the Director of Photography assignment on Warner's "King Rubber." And they do say his previous one, "Underground," is headed for tremendous success at the box-office, thanks to certain flying foreign statesmen who made headlines while Sid was vacationing.

Rudy Maté, A.S.C., is lensing Deanna Durbin's "Almost An Angel," account of Joe Valentine's being tied up for retakes on "Oh Charlie," and also in urgent demand for another big pic starting coincidentally. Deanna knows how to pick 'em!

Karl Struss, A.S.C., supported by the star of his current film, Philip Reed, won the Bing Crosby Trophy for men's doubles in Paramount's tennis tournament.

The recent heat-wave didn't bother Lee Garmes, A.S.C., a bit. Directing the photography of Alexander Korda's "Il-

A.S.C. on Parade

lusions," Lee spent the hot spell working on a big snow set on which half a million pounds of ice, ground up into real snow, kept everybody cool—and dodging snowballs!

Ben Kline, A.S.C., over at Columbia, has charge of photographing "King of Dodge City."

"Citizen Kane" is terrific—and so is the publicity Gregg Toland, A.S.C., is deservedly getting in such national mags. as "Life," "Popular Photography," "U.S. Camera," and others. Who said cameramen weren't news—?

Harry Perry, A.S.C., wandering among the Bahama Cays Technicoloring scenes for "Bahama Passage." Maybe that postcard with a Bahama postmark we got this morning was from him . . . even if it was signed Madeleine Carroll!

A cynic could make a nasty dig about Bob Planck's two latest assignments. Seems he went from photographing "A Woman's Face" to close-upping wild animals for the next Tarzanepic—! But we'll bet Bob could make even a hippo look glamorous.

Paul Eagler, A.S.C., with the ink just dry on a contract adding him to the RKO special-effects Dept. with Verne Walker, A.S.C., left hurriedly for Palm Beach, Fla., for special scenes for "The Unexpected Uncle." Russell Metty, A.S.C., draws the production lensing berth on the same film.

Speaking of RKO's special-effects crew, they, too, are receiving deep salaams—including ours—for their smoothly terrific trick-work in "Citizen Kane."

Jackson Rose, A.S.C., assigned to an MGM short called "Labor Savers." Personally, we think Pete Smith got the idea for that title from Jack's "American Cinematographer's Handbook," now going into its fourth edition!

Harold Lipstein, A.S.C., on MGM's "Race Track Story." And did you hear about the delayed "take" Max Fabian did when he got stuck with a certain film salesman's luncheon-check at the studio commissary the other day—?

George Folsey, A.S.C., assigned to MGM's "Keeping Married."

A.S.C. Past-Prexy John Arnold has a new hobby—model railroading. In that he joins George Barnes, A.S.C., Ned Van Buren, A.S.C., Ye Ed, and sundry others who haven't the courage to admit their trains are bought for themselves, not for Junior!

Sol Polito, A.S.C., answering a hurry call that brought him in ahead of schedule from his vacation, wonders if there isn't something ominous in the title of his new assignment—"They Died With Their Boots On." He thinks "the" may have been cinematographers who didn't get vacations—!

Military note: among the A.S.C. members photographing Army Training Films this month have been Art Lloyd, A.S.C., Walter Lundin, A.S.C., Roy Hunt, A.S.C., Ted McCord, A.S.C., Ray Binger, A.S.C., and others.

There'll be no mystery about the lensing of Edward Small's "G-Men vs. Scotland Yard." Hal Mohr, A.S.C., is in charge of the cameras. It'll be a top-flight job—element'ry, my dear Watson!

Did you know Bert Glennon, A.S.C., was solo-piloting Warner's Technicolor special, "Dive Bomber"?

And John Alton, A.S.C., after that bang-up job on "Power Dive" for Bill Pine and Bill Thomas, signed for their next, "Forced Landing," and the untitled one following. There are two really smart producers—!

Lloyd Knechtel, A.S.C., handling an MGM "Romance of Celluloid" short, "A Good Story," which will be used as an advance plug for "The Yearling."

Billy Skall, A.S.C., in from Charleston, S. C., for Technicolor locationing for "Reap the Wild Wind."

Ray June, A.S.C., assigned to "The Chocolate Soldier" at MGM.

Virge Miller, A.S.C., looks much too healthy for this one—but Boss Zanuck insists on giving him "Private Nurse." Yep—it's a picture!

The team of Ernest Palmer, A.S.C., and Ray Rennahan, A.S.C., is getting to be almost permanent. Following "Chad Hanna" they did "Blood and Sand" together, and now they're again teamed for "Belle Starr."

And did you see the fine article on Karl Struss, A.S.C., that Will Connell had in U. S. Camera magazine?

Orchids to the Editor and publisher of "Esquire" for the way they always give the Director of Photography credit in their color-still spreads on current pix.

Jack Smith, A.S.C., gone hunting snow-scenes for the next Garbo picture. When last heard of he was heading toward Nardin, Cal., wherever that may be.

THROUGH the EDITOR'S FINDER

AMATEUR cinematographers, both individually and as they are banded together in clubs, have today an inspiring opportunity to turn their hobby to the performance of a worthwhile national service. This country has upwards of 2,000,000 men under arms in the Army, Navy and Marine corps, scattered through scores of cantonments and training posts throughout the country. Most of them are young men; many of them are away from home for the first time: all of them are hundreds, perhaps thousands of miles distant from home and families. All of them are hungry for news of the home folks. Conversely, the folks at home are just as anxious for anything that will tell them their loved ones in uniform are well and happy.

And what more graphic way of conveying this news is there than through 16mm. and 8mm. movies? What more worthwhile service could amateur movie-makers perform than making these films which can bring the home town to the soldier, and the soldier to his home folks?

And it can be done! Despite the obvious restrictions imposed on photography within military areas, we are convinced that all of our military and naval commanders will afford full cooperation to bona-fide cineamateurs seeking to perform such a service for the men in their commands and for their families.

Evidence of this is furnished by what Mrs. Mildred Caldwell, President of the active Long Beach (California) Cinema Club has already accomplished. Mrs. Caldwell knew that there were several thousand boys from the Long Beach area in the Army and Navy posts in Hawaii. So she took her vacation in Honolulu, taking with her 8mm. cine-camera and projector, and a bounteous supply of film. To make a long story short, she found it possible to show the men in the Long Beach contingent movies that brought Long Beach and their home folks to them across fifteen hundred miles of ocean, and to expose and bring back with her nearly 2,000 8mm. feet of film by means of which she is showing the wives, mothers and families of Long Beach's service men that their loved ones are well and happy.

What Mrs. Caldwell did, others can do, too. If they work together, they can do even more than she could alone. Individuals and clubs in the home towns can film pictures of the home folks and home-town scenes. Other individuals and clubs living near the camps can make arrangements for showing these films to the soldiers or sailors from that area, and in turn film scenes of these men which can be sent back to the home-town filmers for showing to the folks at home.

We'd like to see a plan like this put

into effect on a nation-wide scale. We know the amateur filmers of America well enough to be confident they could carry it out with distinction. And to that end we pledge the fullest cooperation of THE AMERICAN CINEMATOGRAPHER in serving as a central clearing-house for films, contacts and information for carrying out such a plan, if our readers should agree that it is worth putting into operation.

REPEATEDLY in conversations with cinematographers whose work takes them frequently from one studio to another, we've heard them say, "I could work that way at the X— studio, but I wouldn't dare try it on the Y— lot, or if my negative was going through the Z— laboratory." It makes one wonder why there is not more uniformity in laboratory methods, especially as regards negative processing. Not that we're urging absolute, cut-and-dried standardization! That would in all probability tend to stifle improvement, forcing the progressive laboratory chief to hold his hand until the least fortunate of his fellows could or would follow suit.

But a closer uniformity would, it seems, be of tremendous advantage to all concerned. As we see it, in the processing of motion picture film we are dealing with one of the most truly scientific phases of cinematography. To reproduce on the screen what the camera sees, there should, technically speaking, be but one really correct degree of negative density and contrast, and but one right density for the print made from that negative. And yet, time and again it has been proven by practical tests that if you take a thousand feet of identically-exposed film, break it up into shorter lengths and send one strip to each major laboratory, some plants will give you two or three times the density others obtain from the same exposure, and some plants will return you a print that is marred by extreme "soot - and - whitewash" contrast, while others may give you a muddily soft, flat print, and yet others one that seems ideal in every respect.

Of course we realize each laboratory and its chief has its own definite ideas as to processing methods and standards, and as to what constitutes an ideal negative and print. But in the face of so much variation, we wonder if this individualism isn't being a trifle overdone. A cinematographer going from one studio to another must either waste time familiarizing himself with that plant's laboratory conditions by tests, or waste film, time and money learning the same things during the first shooting days of a production. Sometimes he must learn virtually a new lighting balance to suit his work to the way his film is handled.

A closer approach to uniformity, it seems to us, would minimize these

troubles. It would save the industry valuable time, effort and money being wasted under the present system. And, carried out with the skill and intelligence of which our laboratory chiefs and their crews are capable, it should take us a useful step forward toward our aim of putting better pictures on the screen, and doing it more efficiently.

THE other day, we hear, one of our leading directors of photography went to his studio chief and asked for a chance to direct. The producer, after listening patiently to the cinematographer's outline of his qualifications, replied, "That's all right, my friend: I know you'd make a fine director. But you're far more valuable to me as you are. We can take almost anyone and make him into a passable director: but we can't duplicate your unique technical and artistic skill. We're satisfied to let almost anyone direct—as long as we can have you and other A.S.C. men of your calibre behind the cameras."

In many ways, that is as fine a professional compliment as anyone could desire. It is in many ways true; repeatedly we see untrained, inexperienced men put to directing, bolstered by being teamed with experienced cinematographers who may be relied upon to keep things going properly.

But in other ways, that same compliment is a complete mis-statement. If "anyone" can direct, why do our most business-wise producers pay premium prices to have their most important films directed by experienced directors like Cecil De Mille, Clarence Brown, Rouben Mamoulian, Raoul Walsh, Sam Wood, and the like? For that matter, if "anyone" can direct, can't a man who has spent twenty or thirty years working with dozens of great directors, and propping up as many or more novice directors, do a better, more efficient job?

As to replacements, we admit proudly that the skill and experience of any of today's outstanding directors of photography are unique assets. But the industry has more of these experienced men than it can find work for—to say nothing of a group of alert, capable young operative cinematographers ripe and ready for promotion. So our answer to the producer in question, and to his fellows, is this: today's reduced markets clamor for more efficient production, capable of putting more picture on the screen for less cost. In today's directors of photography, you have an untapped source of trained director-material capable of doing just that, so why not let today's senior directors of photography pilot your pictures? Rest assured, photographic quality won't suffer—and you'll get better pictures, more efficiently and economically made, than ever before!

PHOTOGRAPHY OF THE MONTH

BLOOD AND SAND

20th Century-Fox Production (Technicolor.)

Directors of Photography: Ernest Palmer, A.S.C., and Ray Rennahan, A.S.C.

Comparisons between the silent and sound versions of "Blood and Sand" are inevitable. To thousands of people the title brings back memories of the silent-picture version of 1922—one of Rudolph Valentino's best-remembered successes and one of the most beautifully-presented films of the silent era. It is a pleasure to report, therefore, that the 1941 version shows clearly how far every department of production has progressed in these nineteen years. Memories or no memories, 1941 has made a far better picture of "Blood and Sand" than 1922 did—or could.

From the photographic point of view the two versions, while in most ways utterly beyond comparison, have at least one thing in common: both must take rank among the top photographic achievements of their time. Alvin Wyckoff, A.S.C., gave the earlier production some of the finest cinematography known in 1922; Ernest Palmer, A.S.C., and Ray Rennahan, A.S.C., have given the current version a Technicolor mounting which must inevitably rank high among the finest Technicolor achievements 1941 will produce.

But between the ortho-film monochrome version of the past and today's glowing Technicolor, there is an incredible difference. One was at best a pale shadow of reality; the other is reality itself, painted with the sensitive brush of a great artist.

A great deal has been said and written about what color could do in painting emotional and dramatic moods. In "Blood and Sand," Palmer and Rennahan, ably abetted by Director Rouben Mamoulian, Technicolor Director Natalie Kalmus and her staff, and Art Directors Richard Day and Joseph Wright, have made color an integral part of the story and its telling. Not that they've done it with any obvious attempt at chromatic symbolism such as has in the past made other color films seem "arty" and unreal. They have kept reality well to the fore, but have at the same time kept the chromatic key of the picture subtly attuned to the dramatic mood of each scene and sequence. And they've done it as naturally and smoothly as a monochrome cinematographer's parallel trick of suiting the visual key of his lighting to coordinate with the dramatic requirements of scene and sequence. To this reviewer's mind, it is a technique which must ultimately become as completely a part of good color cinematography as is the use of lighting to create visual moods in monochrome.

In "Blood and Sand" these two photodramatic techniques are used side by

side, to impressive effect. In a good monochrome treatment, such sequences as the introduction which shows "Gallardo's" poverty-stricken childhood and unconquerable determination to become the world's greatest matador—which we sense can lead only to ultimate tragedy—would inevitably be presented in a sombre key. In this understandingly Technicolored version, it is presented not only in a low visual key, but in sombre colorings. In the same way, the sequences showing his success would be presented in a higher key; here they are given the added touch of lighter colors. In monochrome, the sequences in which the bedazzled bullfighter succumbs to the wiles of the glamorous "Doña Sol" would be given lightings tending to enhance the lush textural values of sets and costumes, with stronger tonal contrasts (as differentiated from lighting contrasts) to heighten the mood. This treatment is used in the color presentation, infinitely heightened by the use of brighter—often arresting—color combinations and contrasts. And in the final sequences of "Gallardo's" decline and death, sombre, low-key treatment would be increasingly used; and here again this treatment is made more effectively foreboding by the combination of low-key lighting and sombre coloring.

The way in which this treatment as applied to costuming enhances the characterizations of the players—especially Rita Hayworth's "Doña Sol," in which voluptuous appeal is definitely heightened by the use of warm colors and particularly good rendition of flesh tones—is worthy of comment. If the present "Blood and Sand" seems more vibrant with life than its predecessor, this intelligent use of color must be given fully half the credit.

Lighting and composition in this Technicolored "Blood and Sand" are of the highest order. Merely to single one scene or sequence out for especial mention would be to do an injustice to a picture every inch of which seems an exciting example of camera pictorialism. What Palmer and Rennahan have done should be seen—and studied. The night-effect sequences, beginning with the film's introduction and extending through various other sequences, are notable. So, too, are the exteriors, especially when it is considered how artfully they are handled to fit into the film's visual moods. There are also some excellent projected-background process scenes.

The work of Director Rouben Mamoulian deserves praise, too. He is, as always, one of the few directors who seems fully aware of the possibilities of the camera; repeatedly he makes brilliant use of the visual in storytelling, as, for example, in the scene in the cafe in which "Doña Sol" trans-

fers her attention from "Gallardo" to his successor. And his handling of the bull-fight sequence is such as will bring home the genuine thrill of this sport to even a non-Latin audience. We're no judge of bull-fighting form, but this picture, we believe, is the first to capture in any way the grace, daring and pageantry which have made bull-fighting the favorite sport of Spain and the Spanish-American nations, and do it in a way even a Nordic can appreciate. As such it should be a constructive step in cementing Pan-American relations.

The make-up in "Blood and Sand" is excellent, and represents a distinct advance over the make-up in previous Technicolor films from the same studio. The print previewed is also a very great credit to the Technicolor laboratory. And to those interested in the enhancing effect of fine musical backgrounds, the musical score of Alfred Newman can be whole-heartedly recommended.

SHE KNEW ALL THE ANSWERS

Columbia Production.

Director of Photography: Henry Freulich, A.S.C.

Henry Freulich, A.S.C., has done a highly pleasing job of photography in bringing this diverting little picture to the screen. He has a wide range of settings and action to cover—from a small-town filling-station to a conservative Wall St. brokerage office to Coney Island to swank apartments—and he has handled every scene excellently. What is more he has, in spite of the somewhat limiting atmosphere of light comedy, given the picture a great deal of highly pictorial photography.

Freulich's treatment of his principals and their backgrounds is excellent. He keeps the players—especially Joan Bennett—looking uniformly their best, and brings out every bit of production value offered by the settings. The effect on the screen is definitely rich, with fine pictorial values, yet never for a moment does he let camera pictorialism interfere with the visual comedy and swift tempo of the production.

Technically, he has had quite a number of problems which he handled very well. A rather considerable number of backings were used, and in general they are made more than ordinarily convincing. The closing sequences require a good deal of double-exposure camerawork, in which the consciences of the principals appear as visible alter egos, and carry on a considerable dialog with their actual selves. He accomplishes these trick-shots very skillfully; all too often scenes of this nature have been marred by looking too obviously a photographic trick; here they do not seem to interfere at all with the normal, excellent photographic quality of the film.

There are also two or three excellent montages which deserve special commendation.

But unless the release-prints of this production are of better quality than the preview-print reviewed, the real quality of Freulich's achievement is not going to be apparent to the average paying audience. We've seen many an indifferent print previewed, but seldom one as bad as this. There is hardly an honest middle-tone in the whole picture—only extreme whites and extreme blacks. This tends to impair the facial rendition of the players, and to distort Freulich's work in almost every scene. It "washes out" many of the backings, making it seem almost as though they had been illuminated too strongly. Yet to the practiced eye, it is obvious that this was not the case. Freulich has done a really excellent job of lighting all the way through. His set-lightings appear to be well balanced and pictorially effective, and his personal lighting of the people models them excellently. But his efforts have been crucified in the laboratory. Frankly, we'd like to see a better print of "She Knew All the Answers;" in fact, we'd even be willing to settle for a good print! We're confident it would show Freulich's work as on a par with that seen in any comparable picture of recent months, and probably better than most.

BILLY THE KID

Metro-Goldwyn-Mayer Production (Technicolor).

Directors of Photography: **Leonard Smith, A.S.C., and William V. Skall, A.S.C.**

"Billy the Kid" is, in its best parts, probably the finest example of Technicolor exterior photography that has yet reached the screen. Many of its location scenes, expertly Technicolored by cinematographers Leonard Smith, A.S.C., and William Skall, A.S.C., can only be described by the hackneyed phrase, "breathhtakingly beautiful." Between the spectacular locations and the artistic skill of the co-directors of photography, the camera has captured scene after scene of incredible beauty.

It must be admitted, however, that the picture, at least in the preview print seen by this reviewer, does not at all times measure up to these best scenes. There are repeated inconsistencies in definition when, for no apparently logical photo-dramatic reason, the visual quality changes—sometimes between sequences, sometimes within a sequence—from definite and none too pleasant diffusion to a crisp definition which not only is more pleasing, but decidedly better suited to the vigorous action of the story. These changes are so abrupt that one gains the impression that the various parts of the picture were photographed by two different men with radically different conceptions. In fairness to all concerned, however, it must be admitted that while the variations mentioned could come in the photographing, they could also arise

in various stages of the somewhat intricate process of Technicolor print-making. In the latter case, of course, they will probably be eliminated from the release-prints.

After seeing "Blood and Sand" but a few days before, this film's lack of chromatic coherence cannot but be regarded as something of a flaw. Repeatedly there are direct cuts or lap-dissolves from lamplit and other scenes in predominantly warm tones to night-effect scenes played dominantly in cold tones. There is, too, at times a feeling that the dominant chromatic value of a scene is jarringly out-of-key with its emotional content.

But the film's merits far outweigh these shortcomings. Too much praise can hardly be heaped upon the eye-filling beauty of the location scenes. This is particularly true of those in the latter half of the picture; from the moment the ranchers start their ride into town, the film's pictorial value builds progressively, and Smith and Skall give us scene after scene of haunting loveliness. In a film less vigorously written, directed and played, this abundance of beauty might be a weakening note, but here it provides an effectively contrasting background to the virile action.

Inevitably, the average observer will leave the theatre more conscious of the spectacular exterior scenes than of its interiors, but these latter are none the less among the film's most commendable points. Many of these interiors are strong effect-lightings, and they are brilliantly handled. This is especially true of the character-lightings given Robert Taylor, which does a great deal to add to the menacing aspects of his desperado role. One could wish, however, that either the cinematographers or the make-up staff had given him cleaner facial tones. The facial rendition of the other players—especially leading lady Mary Howard and Brian Donlevy, is excellent.

The film's many exterior night-effects deserve praise, though in one or two the blue moonlight effect—especially in some in which it is contrasted with lamplight from within buildings—is a bit overplayed.

The matte-shots, which are credited to Warren Newcombe, rate high among the finest we've seen lately, and the operative camerawork of Operative Cinematographer Charles Salerno and his associates, both in the many running inserts and the equally numerous follow shots, is particularly noteworthy. So, too, are the many large-screen projected-background process-shots. Many of these required unusually large screens, and were beautifully handled. The excellence of these shots added materially to the value of the film.

SHINING VICTORY

Warner Bros.' Production.

Director of Photography: **James Wong Howe, A.S.C.**

"Shining Victory" offers Director of Photography James Wong Howe, A.S.C.,

far greater opportunities for imaginative cinematography than did his previous release, "Strawberry Blonde." It is a picture which definitely calls for the style of imaginative, sympathetically-keyed camerawork and lighting which is so strongly Howe's forte. And he delivers in outstanding fashion.

"Shining Victory" presents some of the most interesting compositions and camera-angles we've seen in some time. Not that it is a second "Variety," and full of studied attempts at bizarre angles; it isn't: but throughout the picture, Howe takes advantage of every opportunity to make what might be ordinary shots more arresting and dramatically effective by shooting from angles slightly different from what might be expected for the same shot, conventionally treated. Inevitably this picture will bring forth comment that it is directorially "different:" but without any intention of detracting from director Irving Rapper's excellent job, we must point out that a great part of this aura of "differentness" comes from Howe's intelligent use of camera-angles and compositions that make so many scenes visually "different."

His lightings are, as always, well worth careful study. He presents feminine star Geraldine Fitzgerald most effectively; and the rest of the cast are, almost without exception, presented in extremely praiseworthy character lightings which build to excellent dramatic effect. But these lightings are done far more deftly than the term "character lighting" usually implies. They are but a slight shade away from straightforward lightings, accentuated just enough to sketch the character portrayed, whether masculine or feminine, against the physical and dramatic background of the action.

Howe's set-lightings are interesting. He has been given the advantage of highly pictorial sets, which are a great credit to Art Director Carl Jules Weyl. And Howe's photographic treatment of these sets brings out every bit of dramatic atmosphere the designer put into them.

All told, "Shining Victory" is well worth seeing from the photographic viewpoint, as well as the dramatic, and Howe has made it especially a study in the dramatic use of photographic composition.

LOVE CRAZY

M-G-M Production.

Director of Photography: **Ray June, A.S.C.**

When you speak of standardized mass production, you can refer to "flivvers"—or to Packards. "Love Crazy," photographically speaking, is one of M-G-M's standardized Packards. Turned out on what we would imagine to be, for an "A" picture, something of a mass-production schedule, it's not by any means an example of the best work of which Ray June, A.S.C., is capable; but it is a beautifully efficient example of con-

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"Human-Interest" Shots Make The Vacation Movie

By John L. Herrmann, A.S.C., F.R.P.S., F.R.S.A.

WHICH would you rather see—a series of picture-postcards, or a professionally-made news-movie of the same place? Of course you'd prefer the movie! Then—why inflict picture-postcard movies on your friends under the delusion you're showing vacation movies?

We all know plenty of amateur filmmakers who do just that, too. They take their cine-cameras on their vacations—and bring back a series of lovely picture-

postcard views, with no more motion to them than can be obtained by unsteadily panning the camera, or maybe a shot or two of city traffic, seaside surf, or the like. But in general, their films are one scenic still-picture after another, until you wonder why in the world they used a movie camera at all.

Now scenic views are all right in their place. But it takes more than scenery to make a good vacation movie. To me, as a professional news cinema-

tographer, the primary interest in any film must inevitably be what it shows of interesting people, doing interesting things. Get those people against an interesting background, and you'll lift an ordinary scenic shot clear out of the picture-postcard class, and transform it into something any audience will want to see!

For example, the geysers in Yellowstone have been spouting for at least two million years. And since the birth of amateur photography and movie-making, they've been photographed many more than two million times. But—get a shot of a pretty girl looking at those geysers, and you've added a touch of human-interest appeal that will give the shot a new interest to the most jaded audience. Make a collection of similar shots, showing your pretty girl against the various other features of Yellowstone—the falls, the paint-pots, the boiling mud-springs, the bears, and so on—and you'll have developed a continuity which will make your audience feel they've been taken on a personally-conducted tour of Yellowstone.

That's one of the first and most important things a professional newsreel or travel-film cameraman has hammered into his head by that hard-boiled breed of men known as newsreel editors. Day in and day out they tell you, "Put the human-interest touches into your pictures!" And after you've missed connecting with a pay-check once or twice because you turned in shots of scenery and what you, at least, thought was lovely photography, but minus those necessary "human-interest" touches, believe me, you learn to look for human-interest in any camera assignment! What's more, you learn to find it in almost any subject, too. You have to if you enjoy eating!

Fortunately, 16mm. and 8mm. movie-making doesn't have quite such a direct connection with most folks' daily bread and cheese: but if human-interest touches are a sure bet to please the paying audience of a professional travel-film, they're just as sure to please the non-paying audience of the personal vacation-movie. And when you come right down to cases, whether you make movies for money or for fun, the real incentive is making pictures other people can see and enjoy.

A professional news-filmer speedily learns that there are three things which, if they can be brought into his picture, are sure to make it click with any editor and any audience. Perhaps the first of these is a pretty girl. If you can get a pretty girl into your shot, showing off the scene or object or action that's ostensibly the center of interest—or even merely admiring it—swell. If you can find an excuse for having her clad in a sport outfit, a sun-suit or a bathing-suit, revealing an intriguing amount of shapely epidermis, so much the better! That's why we see so many fashion-parades and bathing-beauty contests in the newsreels. And a subject like the completion of the first tank from

a new armament factory may be of topical interest in these stirring days—but if we can add to the usual collection of distinguished military and other officials a pretty girl “christening” the new monster—well, audiences will enjoy it a whole lot more!

Staging a virtual photofinish with the glorified gals as sure-fire human-interest injectors are shots of babies. It's axiomatic with newsreel and newspicture editors that a baby is always cute—and interesting to audiences. Probably that's one reason why politicians make so much of babies just before election time! Seriously, though, babies are so unselfconscious that almost anything you picture them doing will be cute. Just set up your camera and start shooting: they'll do the directing, and the result will have a universal appeal to any audience.

Trailing a very close third come animals. Young ones for preference, but animals, anyhow. People have told me that to them some of the most memorable shots in the picture I made in the Antarctic as official cinematographer for Admiral Byrd's second expedition to Little America weren't the really significant ones showing what the explorers really accomplished, but the “human-interest” shots my newsreel training wouldn't let me miss—shots of the expedition's sled-dogs and their pups, of the seals, and of the ever-amusing penguins.

Now, these ideas can be put to useful work in making personal 16mm. and 8mm. vacation movies, too. But it takes something a bit better than spur-of-the-moment snap-shooting to do it.

The first step is to have a reasonably definite plan of what you're going to shoot. If you're going to have an urban vacation, making a visit to New York, Hollywood, Montreal or New Orleans the high spot of your vacation, you can in advance plan on one kind of a picture. If you're going to take in the National Parks, it'll be a very different type of film. If you're going to some seaside or lake resort, or to the country, or summering on a western Dude Ranch, it will be something else again. If the place you go to is the main thing, you'll be wise to plan to concentrate your efforts on that; if what you do there is most important, concentrate on that; and if the manner of getting there—as in a vacation spent hiking or mountain-climbing—is the dramatic highlight, there's the key to your film.

But in any of these vacation-picture types, plan for a definite continuity. Plan to show, if you possibly can, someone actually doing all these things, seeing all these places, *in front of your lens!*

Most of us are lucky in that we usually take our vacations with the family or with a group of friends. Of course, if you're a bachelor, and travelling strictly solo, you'll have to depend on chance-met acquaintances to provide the livening human touches in your films. But otherwise, well, there's wifie (or hubby, if you're one of the growing army of



Pretty girls—children—animals—will liven up any vacation film. Picture on opposite page photographed on Agfa film; photo above, courtesy Paramount.

lady filmers!) Show her going through your picture, seeing and doing the things you want to show to your audience. If you're lucky enough to be accompanied by a pretty daughter or a good-looking son, maybe they can be persuaded to take the starring role in your film. When you have reason for a scenic or pictorial shot of the scenery, of New York's skyline, and the like, show them looking at it, and then cut to your scenic shot.

Don't forget, either, to make occasional opportunities for getting yourself into the picture! Sometimes you can have another member of the party shoot you; sometimes you may have to set the camera on its tripod, lock the automatic release, and let the camera take care of itself while you get into the scene with the rest of the family. Sometimes you may be lucky enough to encounter a fellow-vacationer with a camera that takes the same width film as yours, who will accommodate by shooting a scene in which you're shown busily working your own cinebox! Offer to reciprocate with him, and you'll be assured of cooperation in most instances.

And if your family is of a tenderer age, you can still use this same technique. I've seen some excellent vacation-pictures built around the youngsters. Instead of “My Trip to the Mountains,” plan to make your film “Mary Ellen (or Junior!) Goes to the Mountains.” If you carry that idea out completely, intercutting the scenery with close shots of the activities your particular youngster found interesting—his or her part in camping, riding the ponies, bathing in the lake, maybe catching a fish or helping Daddy do it—you'll have a film that's worlds more interesting to you *and* to the audience than any cut-and-dried scenic!

There are plenty of ways you can bring in the “human-interest” appeal of animals. If your film is built around wife, daughter or youngsters, you can show them with whatever animals you may encounter—milking the cows, feeding calves or chickens in the country—saddling horses, petting colts or trying to catch a calf on a Dude Ranch—feeding the deer and chipmunks in Yosemite, and so on.

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A three-quarter cross-lighting, like that in this shot of Glacier Park's Going-to-the-sun Mountain, is best for Kodachrome.

PROFESSIONAL HINTS ON Getting Better Kodachrome

By LEONARD SMITH, A.S.C.

DURING the past few years I have shot thousands of feet of 16mm. Kodachrome, not only as a hobby, but as part of my job. Out at the Metro-Goldwyn-Mayer Studios we've been making an increasing number of Technicolor productions; and we've found that we can save a great deal of time, trouble and money by making tests and scouting locations with 16mm. Kodachrome instead of 35mm. Technicolor. A good share of this work has fallen to me, and it occurs to me that some of the things I've learned about Kodachrome while ranging the country with a 16mm. camera looking for studio locations may be helpful to amateurs planning to take 8mm. and 16mm. Kodachrome on their vacations.

In color, as in black-and-white, the basic technical essentials of a good shot are exposure, lighting and composition. Get these right, and your shot is almost bound to be right. Miss badly on any one of them, and your shot will at best be only second-rate.

Of the three, exposure is the most important in color. It's a common saying that Kodachrome exposure must be "right on the nose;" but that, like Jimmy Durante's schnozzle, takes in a lot of territory. In Kodachrome, underexposure is definitely bad. It exaggerates the coloring—especially the red tones—and

exaggerates your contrasts, as well; shadows go an impenetrable, inky black. A technically correct exposure is a lot better, but even this tends to colors that are more glaring than we usually see in nature.

For my money, I'll take a definitely full exposure—not an overexposure, by any means, but a definitely ample one, which gives plenty of light in all important shadows, and just the slightest of overexposure in the highlights. This will give you softer colorings which are more like nature, and, in general, a more pleasing picture.

Getting this full exposure is an easy matter if you use a meter. You can make your meter give it to you almost automatically if you use the instrument rightly. But I've noticed that all too many of the amateurs I've met in my travels use their meters in too strict a copybook fashion. The instruction-sheet says use a speed-setting of Weston 8 for Kodachrome—so Weston 8 it is, without ever a thought of trying something else, to see if it might give better results.

Personally, when shooting Kodachrome according to a Weston meter, I greatly prefer to use a speed one or two points *lower* than the published rating; say 6, or even 5. This will give that slightly full exposure you want for the most

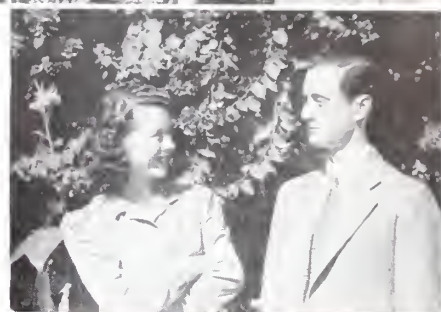
natural results, at the same time eliminating guesswork, and keeping your exposures consistent. But since each individual's tastes and meter-using methods differ, I'd suggest making a few simple tests before starting out. Pick two or three typical shots—a landscape, perhaps, and both long-shots and close-ups of people. Make several "takes" of each shot, each with a different meter-setting: you might begin with 8, then 6, then 5, and even 4. Use up a 50-foot roll on these tests, and when you see the result on the screen you'll be able to decide immediately which setting gives you the color pictures you like best.

Where there are people in the shot, the way you use your meter is doubly important. Come close enough to your subject so you can take your reading on the face—and if it isn't flat-lit, on the shadow-side. This way you'll preserve the "open" shadows that are so desirable.

In lighting Kodachrome exteriors, you can take one of two courses. The instruction-books say to use a flat front-light—that is, with the sun at your back. This is the safe course. My own preference is for a three-quarter cross-light, with the sun behind the camera and just a little bit to one side or the other. This, for either landscapes

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Top, left, extreme long-shot; right, long-shot; below, in descending order, medium-shot or "two-shot;" same, "cheating" with girl a foot nearer camera than man; close-up. Bottom, note different effects of shooting down and up at the same girl.



Putting Camera-Angles to Work

By PHIL TANNURA, A.S.C.

CAMERA-ANGLES, I think, are among the most maligned and misunderstood phases of moviemaking. Ever since the memorable silent picture "Variety" set all Hollywood talking about the amazing angle-shots Karl Freund, A.S.C., put into it so many years ago, "camera-angles" have to most people meant shots made with the camera in some unusual and usually illogical position—unusually low, or high, or at least tipped wildly to one side or the other.

But as a matter of fact, the subject of camera-angles is something of down-to-earth importance for all of us, professional or amateur, even though we'd frown disapprovingly at the very idea of tilting the camera to some irrational slant.

The term "camera-angle," in its most literal sense, means the angle at which the camera views the subject. It *can* mean a slanted or otherwise "arty" angular inclination—but it can also mean the angle of view included in an otherwise straightforward shot; whether the camera shows all of the subject, as in a long-shot, or just a part of it, as in, say, a close-up.

In fact, this sort of camera-angling is one of the basic facts of movie-making, and one of the most important, too. The most obvious—and, by the way, the oldest—of camera-angles is the long-shot, which shows all of the subject,

from head to foot, if the subject is a person. It may be an ordinary full head-to-foot long-shot, or it may be an extreme long-shot, in which the camera is far enough back to show quite a bit more in every direction.

Next comes the medium-shot—the waist-length figure, if the subject is a person. Very closely allied to this is what has during recent years come to be called the "two-shot" in the Hollywood studios. This is precisely what the phrase implies—a shot, usually about a waist-length one, of two people.

Finally, and in many ways the most important, comes the close-up. This brings the camera close enough to the subject so that every detail is visible. With people, the close-up may range, according to necessity, from a head-and-shoulders portrait angle to an extreme big-head or "choker" close-up, which fills the screen with the subject's head.

Every one of these angles has its vitally important place in good movie-making. To the professional, the sequence of long-shot, medium-shot, close-up is an elementary part of moviemaking.

It's logical, too. Suppose we are going into a new sequence, starting our action in a new place or room. We begin the sequence with a long-shot—often an extreme long-shot. This establishes the locale. It gives the audience a good, clear impression of *where* our characters are.

Next we normally move into a medium-shot. This, bringing the camera—and with it the audience—to a closer view of the people, gives them a clearer understanding of *who* the people are. Finally we

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Tips on Tripods and Panning

By ROBERT G. MARTIN, A. S. C.

IF you want movies that are steady on the screen, there's only one way to get them. That is to have the camera mounted on a rock-steady foundation when the picture is being made.

Simple, isn't it? Yet overlooking this obvious fact of movie-making is one of the chief faults of the average home movie. Just because the modern 16mm. or 8mm. camera is small and light enough to be held comfortably in the hand, about seven out of ten home filmers insist on using them that way. Then they blame the camera or projector because the picture weaves unsteadily about on the screen!

I'll admit that there hasn't yet been an amateur movie camera built with a movement as steady as those of the Mitchell and Bell & Howell cameras we use in the studios. But for home use, they don't need to be that accurate. Any of them—even the cheapest—will give very acceptably steady pictures if it is used as it should be, from the firm foundation of a good, steady tripod.

You'll notice I specify a *steady* tripod. Not all of them are steady; all too often I've seen amateurs who, in the interests of economy or portability try to make use of spindly-legged feather-weight tripods which, when extended to the height necessary to bring the camera to the desired eye level, are so precariously perched that the slightest touch will set the camera wobbling.

No, for serious movie work you need a man-sized tripod—one with firm, solid legs strong enough to support a weight infinitely greater than that of any substandard camera yet made. Such a tripod can't be particularly small or compact; usually they cost more than the weaker ones, and they're often less neat-appearing. But they're the only positive way of getting really steady movies under all conditions.

Amateurs can pick up a lot of useful

pointers in the use of tripods from things the professional has learned from many years of experience. For example, just take the matter of setting up a tripod. When a professional sets up his tripod, he sees to it that the front leg is extended half an inch or an inch longer than the other two. This way he can carry the tripod with its legs folded, and then, when he wants to set it up, he simply brings the legs down to the ground. That front leg, being a trifle farther-extended than the other two, touches the ground first. Then with one of the remaining legs in each hand, he simply spreads the tripod out until the camera is at the desired height. It's quick, easy and accurate—not to mention being much pleasanter than wrestling with three unruly tripod-legs as I've seen many an amateur (to say nothing of green assistant cameramen!) do!

In this connection, it's an important thing to keep the hinges of your tripod's legs tightened to just the correct degree. If they're too loose, the tripod won't be rigid; if they're too tight, they'll bind and you can't adjust the tripod as easily as you should be able to.

The same thing applies to the tension on friction-type pan-and-tilt heads. Too loosely tensioned, they're no help at all in panning. Too tight, and they bind and produce rough, jerky pans. But there's an in-between setting where the tension mechanism produces just sufficient braking action to make the pan smooth.

It's a very good idea to rehearse your panning once or twice before making the shot, by the way. For one thing, if the camera has been standing for even a few moments with the tilthead in the locked position, even though the tension is released for the pan, it is likely to bind a bit at the start, and your pan will start with a sudden jerk. But if you swing the camera a couple of times im-

mediately before making the shot, you'll have the action nicely loosened before the camera starts running—and the result will be a smooth pan on the screen.

Rehearsing pans is important for another reason, too. You want to be sure your tripod is set up so that the pan is level from start to finish. And this, by the way, doesn't always by any means mean that the camera must be literally level. Far from it: sometimes to produce a level effect on the screen, the camera may have to be placed actually several degrees out of level! You see, the only guide the audience has is the horizon line in the screened picture. Disregarding, of course, such parts of the horizon as are very obviously parts of hillsides, if the general horizon-line on the screen is level, that is all that's necessary. To get this, the camera may sometimes actually be quite crooked—but the effect on the screen is what matters. Therefore rehearse your pans *through the finder*. If they appear level there, the result on the screen will be all right, no matter how unnatural the camera may appear when making the shot.

There's another thing about panning, too: every pan or tilt shot should have a very distinct beginning and end, as regards both composition, action and interest. And the pan should represent a crescendo in all three. Plan your scene so that you begin with composition, action and interest which would in themselves make an interesting, non-panned shot. Then see to it that in all three aspects the shot builds up as it progresses, until at the end your composition is more effective, your action more significant, and the interest stronger than when the scene began.

You can't make any hard-and-fast rules about the direction of panning.

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SCENARIO FOR A PRIZE-WINNING PICTURE

By JOHN E. WALTER,

L. A. 8mm. Club

EDITOR'S NOTE: This scenario has been proven by production. Filmed by John E. Walter exactly as it is written here, it resulted in a 50-foot 8mm. picture which received Second Prize in the uncut film contest held in April by the Los Angeles 8mm. Club. It tells an amusing, if simple, story which can easily be filmed in almost any city. It requires but three characters and no special settings, props, or the like which cannot easily be obtained by anyone. Its phototechnical requirements are just enough out of the ordinary to make it interesting to the man at the camera. The double-exposure sequence is a simple matter, especially to those who, unlike Walter, do not have to make it as an uncut reel. The several night exteriors and the other interior scenes require a fast lens and fast film. Walter used an f:1.9 Cine-Kodak 8 with Kodak Super-X 8mm. film; in 16mm., with the faster emulsions available, these scenes would be still easier. Walter's scenario is, in short, one of the best examples of camera fare we have encountered in a long time, and we can unhesitatingly recommend it to anyone in search of filmable ideas. THE EDITOR.

MAIN TITLE:

(FADE IN)

BOY DATES GIRL

(FADE OUT)

Scene 1. Medium-shot—(FADE IN)—Edith picks up phone and speaks. In dark hallway behind her, double-exposed title "Hello," with notes hinting a musical voice, moves across screen, apparently coming from her mouth as she speaks.

Scene 2. Medium-shot—John sitting at his desk in the office, speaking over telephone.

TITLE:

"SWELL—TONIGHT AT 6:30—
DINNER AND 'FANTASIA'"

Scene 2-a. Same as Scene 2.—John hangs up phone.

Scene 3. Medium-shot—similar to Scene 1. Edith hangs up phone and exits. FADE OUT.

Scene 4. FADE IN—close-up of clock. Hands at 3 p. m.

Scene 5. Close-up of label on "Bubble-Bath" bottle.

Scene 6. Medium-shot—Edith's hand is pouring "bubble-bath" into tubfull of water. Camera pans down to show tub and bubbly water.

Scene 7. Medium-shot — Edith in tub, with foamy bubble-bath up to her neck.

Scene 8. Medium-shot—Edith standing, wearing bathrobe. She closes front of robe, and removes her bathing-cap.

Scene 9. Close-up of clock. Hands point to 4:15.

Scene 10. Medium-shot—Edith sits in foreground, and the scene shows her reflected image in her dressing-table mirror. She is combing her hair.

Scene 11. Close-up—Edith applying her make-up. (Several angles on this may be used if desired.)

Scene 12. Close-up—shooting past Edith's shoulder into mirror. She is putting the last touches on her make-up.

Scene 13. Close-up of clock—5:30.

Scene 14. Close-shot of corner of bed. Several dresses are placed on the bed as Edith decides which one she'll wear.

Scene 15. Close-up—Edith putting on hose. (Close shot of foot as stocking is pulled over it.)

Scene 16. Medium long-shot — shooting into mirror. The reflection shows Edith adjusting her gown, which she has obviously just put on.

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Top, left, Scene 1; middle, scene 2; right, scene 7; below, scene 15; Scene 10; Scene 11; Scene 40. All illustrations frame enlargements from the author's prize-winning 8mm. picture.

Shooting Summer Sports

By ROBERT PITTACK, A.S.C.

IF you're after pictures that are a bit out of the ordinary run of summer movies, why not film your favorite summer sport? I don't mean just going out and making a few haphazard shots of it now and then, but tackling the job seriously and making a real picture out of it. You'll find a well-made sports reel an interest-builder with any audience, and a worthwhile addition to your film library.

There are plenty of viewpoints to choose from, too. You can build up a mighty interesting reel just of more or less intimate shots of top-flight notables in that particular sport, in action and (if you're persistent—and lucky) in their off moments, as well. You can make an entirely different reel detailing the progress of some individual game or contest. Or, if you're analytically-minded, you can shoot a film that will illustrate the finer points of good and bad form in any particular sport.

Naturally, each of these treatments calls for its own special technique in shooting. So, too, does each sport.

For instance, there's the great American game of baseball. I think the newsreel men shooting big-league games give us the best pointers on how to film that. Get up fairly high in the stands, so you can look down at the field, and preferably from a position to one side or the other of home plate.

Speaking generally, your best camera-angle on baseball is a long-shot which embraces a pretty good part of the field. That way, when Joe DiMaggio clouts a homer, you can see something of the ball's progress into the outfield, and you can follow the batter's progress 'round the bases with a minimum of camera-panning. In the case of less potent swats, your long-shot angle will get you some idea, at least, of the fielding without losing sight of the batter; that way, you avoid the indecisive effect of showing your batter—in a telephotoed close shot—connect with a mighty swing at the ball, start sprinting to first, and suddenly slow down as he's caught out by someone not seen in the picture.

My suggestion would be to hold your telephotoed close shots to a minimum; just one or two showing your favorite pitcher—possibly in slow-motion—and if you can get a good angle, maybe a shot or two of a batter. But in general, keep to the more graphic long-shot.

If you're shooting black-and-white, you'll probably find an ortho or chrome-type film the best, for this will give a darker rendition of the green infield, and the uniforms and the white streak of the ball will show up more prominently against this than against

the lighter background of the same green grass filmed on panchromatic films. But for the really best results, shoot it in Kodachrome, so you'll really capture the green of the grass, and the white of the uniforms, together with any touches of color either team may wear.

Track events are quite a different matter. There, you've almost got to come to closer angles. But not too close! Not so long ago I saw an amateur attempt at covering an intercollegiate track-meet in 16mm. The pictures were good enough, but the man at the camera was far too anxious to get intimate shots of his team's stars doing their stuff, and used a telephoto almost from beginning to end. His close-ups were far too close-up: you'd see a high-jumper or pole-vaulter come charging into the picture, then suddenly soar up out of the frame and down into it again, while you wondered if he cleared the bar or not. You'd see a javelin ace bound across the camera's field, looming bigger and bigger until the screen was almost filled with his muscular right arm heaving his spear out of the frame.

Get the close shots, all right, but plan your angles so that at the athlete's closest approach to the camera he has plenty of head-room—and foot and side-room, too. And in events like the javelin-throw, the discus, and the shot-put, leave plenty of room in your shot for those flying legs and arms which may whirl, dervish-wise, over a considerable area as the fellow makes his cast.

Making follow-shots of some of these events may be good, while in others it would be equally bad. The strictly track events—the hundred, the hurdles, and so on—are "naturals" for really good, smooth-panning follow-shots if you can make them. But try to pick a camera-position where your subjects will keep as nearly as possible the same size on the screen from start to finish. Among the field events, the three already mentioned—javelin, discus, and shot-put—don't lend themselves any too well to much following, though a few follow-shots intercut with extreme long-shots and a few closer shots of the actual heave, aren't bad if cut properly. The high and broad-jumps and the pole-vault are subjects upon which a follow-shot would be absolutely wasted. A moderately long-shot angle is much the best, for it shows clearly the point from which the jumper took off, and the spot where he landed. Occasionally, though, if you can get into the right position for it, you can get some strikingly effective close-shots of the higher

pole-vaults if you can set up your camera reasonably close, and shoot up from a low angle so you get the vaulter just sailing over the bar. Then you can intercut these angles with other suitable shots showing the same athlete making his approach, and another, probably from a slightly more distant angle, landing. With quick cutting this can be effective, and even though you show three or more separate vaults, they will look like one on the screen.

Slow-motion—especially at higher speeds like 48 and 64 frames per second—can be invaluable in filming such events. This is especially true of the hurdles, the high-jumps and pole-vault, and the shot-put, javelin and discus events.

If you're an aquatic fan, swimming and especially diving are fine camera-fare, too. Most swimming races are usually best shot from a head-on position, with the camera looking down on the swimmers. But the diving events give you an opportunity for a wide variety of camera-angles. From a full side-on long-shot position you can get one impression of the dive. Then from a high point—maybe on the high platform behind the diver, you can get another and very different view; and finally, especially in the high diving, shooting up from below gives you still a different view. Unless you're awfully good at it, I'd avoid follow-shots of diving.

Speaking generally, slow-motion is best for diving. Just how slow had better depend on your camera and the rate you can afford to see film race past its lens. But 64-frame speed isn't any too much for really dramatizing the form of a champion diver.

Golf is another subject for fairly close shots and a reasonable use of slow-motion. Side angles are usually best—preferably from the right side of the average right-handed golfer—with the camera far enough back so that even at the peak of its swing, the head of the club stays in the frame. As a rule, longer shots in golf aren't very meaningful, even in slow-motion, for you just see the player swing, and the ball vanishes too fast for the eye—or camera—to follow.

Sometimes you can get one very interesting angle on golf if you use a moderate telephoto lens and place the camera directly behind the player, right down on the ground, so that the ball itself occupies a prominent spot in the foreground of your shot. Filmed in slow-motion, you get quite a surprising effect in this angle, with the club sweeping slowly down into the frame, then up again, while the ball flows rapidly out into the distance.

And—you can sometimes use this same angle on close shots of putting. In general, though, putting is best shot from a moderately high camera-position and a long-shot angle from behind the player. And a film that gives a good, dark rendition of the green, against

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We Make a 16mm. Western

By CARL FALLBERG

and

LARS CALONIUS

ONCE upon a time, as the story-book says, a couple of ambitious young cartoon-makers out at Walt Disney's mouse-factory had a brainstorm. Maybe it was just a worse one than usual. Anyway, they wanted to learn more of the practical details of film production—what it takes to put a film together and make it tick. Reasoning that those fundamentals are the same whether the subject is live action or a cartoon, they decided to devote their spare time for the next six or seven months to making a 16mm. feature picture.

And did they learn about the problems of film production—! We can answer that with a great big affirmative, for we might as well break down right now and admit that we were the two brainstormers involved. We learned a lot about the mechanical fundamentals of making a real movie—and we also learned a lot about why professional producers, directors and cinematographers grow gray hair and acquire headaches and nervous indigestion! When you start making a feature picture, we found, you can get just as good a crop of headaches out of 16mm. as from 35mm. Probably the same thing goes for 8mm. as well.

And we'll never make uncomplimentary remarks about a professional pic-

ture which has gone 'way beyond its prescribed schedule and budget! Ours did, too! At the start, we planned to have our epic finished in six months; well, a year and a half more was required to finish it. Final score, two years (of week-ends and holidays) in production, 7,000 feet of Eastman Super-X 16mm. reversal film shot, and over \$850 of our hard-earned dollars invested. The result is a feature-length picture of 1750 sixteen millimeter feet, with a running time of 1 hour and 15 minutes, which our friends have told us is "not too bad for amateurs."

And don't make any mistake about it: we *are* amateurs. None of us had looked a movie-camera in the lens before—much less handled one. As a result we made plenty of mistakes no real-dyed-in-the-wool cine-amateur would ever fall into, and wasted plenty of time, energy and film on stuff that even we had to throw away. But—a hopeful sign was the fact that we made fewer mistakes as the picture progressed, and found ourselves using less and less film in getting what we wanted. That's something, anyway!

Being rather naive (maybe dumb is a better word!) about picture-making problems at the start, we hadn't more than a very hazy idea of the production problems concerned in making even an

amateur movie. In some ways, they're probably even worse than the ones you run into making a professional film, for this business of doing everything yourself complicates things no end.

First of all, there's the story to work out. You'll get all sorts of great ideas—and then find you can't shoot 'em with what you've got to work with. Then there are actors to line up—sets to build—costumes and props to get—locations to pick out. And finally, shooting. And two guys with just week-ends to work on can get just so much done, and no more. Hence the two years. Well, it's the hard way to learn how to make a picture, but the lessons have a way of sticking when they come hard!

The story we selected was a rip-roaring "western," complete with sheriff, bad men and much shooting. We called it "Grizzly Gulch," after the town in the foothills of the California Sierras in which the action was supposed to occur. To make matters worse, we laid the action in the rip-roaringest days of the wild old west—1879. That made it a "period" picture, about which more anon.

Wells-Fargo messenger is held up and killed by a bandit in the hills near Grizzly Gulch. The local sheriff is a well-intentioned arm of the law, but faced with one corpse and no witnesses, he doesn't make much headway in solving the case. So the express company sends out a call for a Pinkerton private detective.

Meanwhile, the Grizzly Gulch Sheriff has arrested a card-sharp with whom he'd been too trustingly playing poker. The Sheriff's deputy — our picture's "comedy relief," by the way, who we called "the poor man's Andy Devine"—stupidly lets the sharper escape, after which it is discovered that they had unknowingly had the murderer in their jail.

While the town is, as the novelists
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SECRETS OF Using Telephoto Lenses

By CHARLES A. MARSHALL, A.S.C.

THERE'S nothing particularly mysterious about using telephoto lenses once you understand what they are and what they do. Really, a telephoto is basically like any ordinary lens except that in comparison to the lens ordinarily used on a film or plate or given size, the telephoto has a longer focal length. Accordingly, the dimensions of the picture-frame remaining in each case the same, the longer-focus lens will cover a narrower angle of view, and therefore give you a relatively larger picture of any given object.

But if that tele-lens were used on a film or plate of proportionately larger size, it would become a strictly normal objective. This is excellently illustrated by the familiar 25mm. (1-inch)

lens normally fitted to most 16mm. cameras. Used on 16mm., it is what we generally call a "normal" lens, covering an angle of 21 degrees. Put that same lens on a 35mm. camera (assuming it is of a design capable of covering the larger field) and it becomes a wide-angle lens, covering an angle of 47 degrees. Put it on an 8mm. camera, and it becomes a telephoto, covering an angle of slightly under 10 degrees! Nothing about the lens itself is changed—but its effects, and the basic purpose of its use, have changed beyond recognition.

In the same way, suppose we consider that same 1-inch lens on a 16mm. camera in comparison to the telephotos most commonly used in 16mm. The

1-inch has an angle of 21 degrees. Shooting at a subject 100 feet away, it will cover a field of view approximately 38 feet wide. Replace that 1-inch lens with a 2-inch telephoto, and at the same 100-foot distance your camera's field has narrowed down to a mere 19 feet wide. Substitute a 3-inch telephoto, and the field is cut down to just under 13 feet wide; with a 4-inch, it's down to 9 feet, and with a 6-inch, to 6 feet. In other words, as you double the focal length, you cut the angle of view roughly in two—and by the same token, you get an image of any given subject approximately twice as large.

Now in doing this, you're putting your camera, figuratively speaking, at the end of an increasingly long stick. It's easy enough to take a foot-rule, grasping it by the end, and hold it out at arm's length and score a bull's-eye touching a nearby target. If you try the trick with a yardstick, also grasped by one end, it's harder. Doing the trick with a 10-foot pole held the same way is an almost impossible job: the tiniest quiver of your hand sends the far end of the pole leaping madly all over the target.

Using a telephoto lens is exactly like this: in magnifying the picture, it also magnifies the movement of the camera disproportionately; what is actually the tiniest quiver turns into a minor earthquake on the screen. And with a really powerful telephoto—say a 6-inch on 16mm.—a fraction of an inch of movement of the camera makes the picture jump several feet on the screen.

So the first essential in using a telephoto lens is to have a rock-steady foundation under the camera. In some types of work with a 16mm. or 8mm. camera and a normal lens (25mm. focus for 16mm.; 12½mm. for 8mm.) you can in a pinch hold the camera in your hand; it's a bad practice, but you can sometimes get by with it. But with a telephoto, the vibration of even the steadiest hand is magnified into great surges. The only thing to do is to use a tripod. And for best results, make it a good, sturdy one. If you're using anything over a 3-inch or 16mm., or a 1-inch on 8mm., don't try to use any of the cheap, "featherweight" or modified small still-camera tripods—they aren't steady enough. Use a tripod that's made for holding a man-sized still or movie camera. Maybe it's bigger and bulkier—but it's also steadier.

And where you're using really long-focus telephotos, say over 6-inch focus for 16mm., you won't go wrong if you have a mount made which provides a steadying brace between the lens and the tripod, to eliminate any vibration in the long, heavy lens-barrel!

The next point is to be sure your lens is really properly shaded. Most of the lenses made for use with 16mm. and 8mm. home-movie cameras are fitted with what the manufacturers laughingly term a sunshade. But most of them are

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Part of THE AMERICAN CINEMATOGRAPHER'S service to its readers is individualized review and criticism of amateur movies by members of the A.S.C. In making these analyses, the reviewers make full allowance for the differences between professional and amateur cinematography in equipment and facilities, but recognize, too, that there cannot really be any double standard of judging cinematography: good photography is good photography, regardless of whether it is on 35mm., 16mm. or 8mm. film. It is their aim always to be constructive in their comments, especially to point out to the home moviemaker how he may utilize in his own filming the many little tricks of camerawork, lighting, editing, titling and direction which professionals have learned through long years of moviemaking, to the end that his films may be better, smoother and more graphic.

We invite all readers to send in their films for review.

THE EDITOR.

NEW HAMPSHIRE ON PARADE

Scenic, 400 feet 16mm. Kodachrome.
Filmed by Fred and Ruth Ells.



"New Hampshire on Parade" shows why Fred Ells is regarded as one of the world's foremost cine-amateurs. Choosing a spectacular subject—New Hampshire's White Mountains in their autumnal coloring—the Ells partnership has turned out a spectacularly pictorial scenic film. It is one of the finest examples of pictorial cinematography we have seen in a long time, in many ways superior to the previous Ells films which have won acclaim in virtually every quarter of the world.

The continuity of the film is excellent. The film shows New Hampshire from early autumn when, as the introductory title explains, "the last tourist has departed," through the fall until the first snowfall on the mountains ushers in winter. This continuity is carried out not only in titles and subject-matter, but also in color. The early scenes make only restrained use of the warm autumn colorings, with the dusty dark-greens of

early fall much in evidence; then, as the film and the season progress together, the riotous reds, oranges and yellows of New England's crisp autumns come more and more into view, finally dominating the picture. In closing, cold, wintry grays dominate the final scenes.

The titling is excellent. There are plenty of titles to explain such scenes as need explanation and to stress the mood of the film. These titles are in themselves a spectacular feature of the picture: neatly lettered in white on deep blue cards, they have a border of red and yellow autumn leaves which excellently carry out the theme of the film.

The editing is excellent. The film maintains the characteristically slow, sedate Ells tempo, giving the audience ample time to appreciate the pictorial beauty of each scene. One slight improvement in cutting might, however, be suggested: in the brief duck-hunting sequence, the cut from the hunter's firing to the duck's fall into the water might be quickened to good effect, cutting the latter scene, say, just as the duck first appears in the frame.

A second minor criticism may be made of the inclusion of three sequences in the film which were obviously made earlier in the season and have verdant green backgrounds which do not match well with the picture's autumnal mood. Yet on the other hand, these sequences—one showing a kid at play, another some excellent shots of deer, and the third a most entertaining little sequence of a puppy and a kitten frolics together—undeniably give the picture a touch of human-interest appeal which does much to balance the otherwise uninterrupted parade of photographically lovely, but (to some audiences) almost abstract scenes.

HAPPY LANDING

Scenario film, 360 feet 8mm. Kodachrome.

Filmed by Mrs. Mildred J. Caldwell.



This picture is another version of one of the latest cooperatively produced scenario films of the Long Beach Cinema Club, and an unusually good one, at that. Filmed in Kodachrome, it is in the main a first-class example of fine camerawork, continuity and editing.

The double-exposed titles which open the picture are excellent, though either a darker background or slightly less exposure on the one used would have

been photographically more effective. The subtitles—white-lettered against a blue background—are excellent in wording and photography.

In presenting her story, Mrs. Caldwell makes more than ordinarily effective use of angle-shots. Her opening—a close-up of a girl's hand blowing an auto's horn, followed by interesting angle-shots as she introduces three of her principals—starts the picture off in an intriguing fashion, and from there on she makes fine use of unusual angles wherever possible. Her compositions are very good.

A few criticisms, of a relatively minor nature, may none the less be levelled at "Happy Landing." First of these is the fact that in the early sequence in the gas-station, two different sets of "takes" appear to have been intermixed: some taken on a sunny day, and others on a cloudy one. The result is none too pleasing; both should have been made under similar conditions of weather and lighting. In a few long-shots, here and elsewhere, there is also a slight tendency to underexposure. The scene in which "Bruce" belatedly pursues "Jack" and "Ann" to their car at the airport could have been given closer cutting. The effect would be better if the scene were commenced just as "Bruce" enters the frame. And in the closing sequence, even though the audience knows that the suitcase with which the luckless "Bruce" has been pursuing "Ann" doesn't belong to her, it would be much more effective if, when finally he catches up with her, it was made clear—via a close-up of her speaking, and a spoken title—that it isn't hers. As it is, "Bruce's" reaction—a faint—seems a bit unnatural, and it occurs too fast for the average audience to get the full effect of the situation.

PASADENA TOURNAMENT OF ROSES

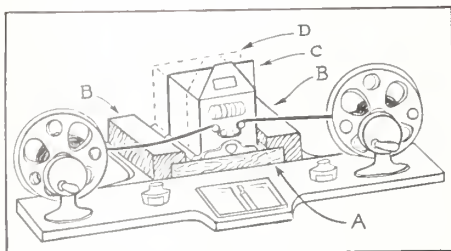
News-film, 200 feet 8mm. Kodachrome.
Filmed by Harry E. Ward, Jr.



This is quite an effective presentation of this almost too-frequently filmed subject. Ward has chosen his camera-angles surprisingly well, avoiding the mistake made by so many amateur filmmakers of having the parade approaching the camera from right to left. If you will study the methods used by professional newsreel cameras, you will see that they

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THE IDEA EXCHANGE



Movable Viewer

Film-viewers are mighty useful in editing your film, but the way most of them are mounted, they're mighty inconvenient when you only want to rewind your film. If they're mounted on the editing-board in a position where they're really handy for viewing purposes, they're right in the way when you rewind, and you either have to hold the film clear of the viewer, or run the risk of getting it scratched as it rubs across the viewer.

But you can get around this problem if you re-mount the viewer as shown in the sketch, so that it can be slid forward when you want to use it for viewing film, and then slid back out of the way when you don't need to view your pictures.

The principle of the idea is shown in the sketch. You'll probably have to begin by making a new and larger board for your editing outfit. That's an advantage, anyway, for most of them don't give you enough working-space anyway. The base for the viewer should be a good deal wider and longer than in the original base-board. Mount your rewinds and splicer on the new board as usual.

But don't mount your viewer on it! Mount the viewer on a separate block of wood (A in the sketch). This should be a good deal wider than the viewer's base.

Then make the two L-shaped rails, "B", and mount them as shown, on the editing-board. The viewer's new base-block, "A", should be mounted under them as shown, so that it will slide forward and back. The viewing position is indicated at "C". The out-of-the-way position for convenient rewinding is shown by the dotted outline at "D".

The most important part of the whole job is to make sure the viewer, when in its forward position, is held very solidly in place. You're seldom conscious of it in using a good rewind, but pulling film through any motion-viewer requires quite a bit of force, and if the viewer isn't very solidly mounted it can pull it right out of place. So make the overlaps of the viewer-base "A" and the guide-rails "B" very big, and make it a really snug, tight fit. If you can, it's a good idea to provide a good, strong catch to anchor the viewer in place when in the viewing position. It had better be a spring catch so it will click into

place automatically when you slide the viewer forward. That way, you can't forget and start running film through when the viewer is either incorrectly aligned with the rewinds, or in a possibly loose, unsecured position.

J. D. HANSEN

Lens-Caps

Many amateurs, especially while they're away from home on vacations, and not in reach of their favorite dealer's store, are likely to lose or mislay the rubber dust-caps which protect the lenses of their cameras, and defer buying new ones until they get back home. You can get very acceptable substitute lens-caps in most any drug-store, by just asking for rubber nursing-bottle caps (not nipples!). Several sizes are available: the sizes for the various types of small-necked nursing-bottles will usually fit the small lenses of 8mm. cameras, and many of the slower or shorter-focus lenses on 16mm. cameras, too. The caps made for wide-necked nursing-bottles will do excellently as emergency caps for the larger-diameter lenses. As a matter of fact, in Hollywood studios they use the similar rubber covers made for protecting food cells for this same purpose.

ROY OVERBAUGH, A.S.C.

Adapting Minicam Sunshades

I have a Contax 35mm. miniature camera, and a Bell & Howell 8mm. Filmo, and I never could see any sense in buying filters for the minicam, and then buying another duplicate set for the cinecamera. So I've made an adapter that lets me use the sunshade-filterholder of the still-camera on the movie outfit as well. I simply made a doughnut-shaped disc of aluminum that serves as an adapter. The inside is cut to provide a reasonably snug fit on the lens-shade of the eight. The outside of the disc is turned to the same diameter as the Contax's lens-mount, so the latter's sunshade-filterholder can be fitted onto it. To hold the adapter in place, I provided a small, counter-sunk set-screw by which it can be tightened solidly to the smaller camera's lens barrel. If you have several lenses for the cinebox—wide-angle, telephoto, and so on, just make up an adapter for each—and you can do all your shooting with only one set of filters for two cameras.

A. P. SMITH

Dust-cover For Editing Outfit

If you don't like to leave your editing-board, viewer and projector out in the open where they'll collect dust, but still want them handy for use any time you need them, you can make an excellent dust-cover from some of those tough, transparent fabrics like "pliofilm" which they use for ladies' raincoats. Just get

THE IDEA EXCHANGE is just what the name implies—the place where 16mm. and 8mm. cinefilmmers can swap moviemaking ideas with the other fellow. The little improvised tricks you used to solve one of your cinemaking problems may be just the answer to something that's perplexing a fellow filmer—and one of his ideas may solve a problem for you.

To help out this exchange, THE AMERICAN CINEMATOGRAPHER invites you to send in descriptions of gadgets, tricks, shortcuts and methods you have used in any phase of home movie work—shooting, editing, titling, projecting, processing, and the like. If possible, send along a photograph or sketch to help make your description more clear to the other fellow. For every idea published in THE IDEA EXCHANGE, we'll give you two projection-reels and cans. Really unusual ideas will receive higher awards. When sending in your idea, let us know whether you shoot 8mm. or 16mm. to facilitate sending you the right equipment.

a piece of it large enough to cover whatever piece of equipment you want to protect, and have your wife fashion it into the desired bag-like shape, in some cases fitting the opening with a draw-string so you can tighten it up, as for example around the pedestal of a projector. This makes a very neat-appearing dust-proof cover which protects the equipment very well, and may be removed or put on in a few seconds. Also, it helps keep your room neater, which pleases most wives!

C. W. WADE

"Douser" For Projector

Home-movie projection can be made much smoother if the projection-light isn't switched on until all the leader-strip has passed by the film-gate. But some projectors are wired so that they won't run unless the projection-lamp is burning. You can of course run the film through to the start of your picture holding your hand over the lens, but a more convenient idea is to fit a "douser" such as they use on 35mm. theatre-projectors, and on the big 16mm. arc projectors. This is simply a hinged metal shutter, pivoted so it can be swung into or out of the path of the projection-light. In professional projectors, it is placed right in front of the lamp-house. But in most 16mm. and 8mm. projectors, this can't be done, so you'll have to put it right in front of the lens. A very

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AMONG THE MOVIE CLUBS

CALLING CLUB SECRETARIES!

This department of THE AMERICAN CINEMATOGRAPHER is your department. We feel that there is a great deal to be gained all around by making these reports of club activities available to other clubs and to independent cine-films all over the country. To that end, we ask all you club secretaries to consider yourselves special reporters for THE AMERICAN CINEMATOGRAPHER with the assignment to "cover" the activities and meetings of your club. Send us those reports as quickly as possible after the event has happened—and make your report accurate and prompt. Wherever possible, we'd appreciate getting reports of meetings that have actually happened, rather than of those that are scheduled to happen in the future, so that none of us will be embarrassed by reading that something is going to happen at such-and-such a meeting, only to find later that some switch in schedule made the actual meeting very different. And please—remember that printers and editors wait for no man—so get your reports in for the next issue by not later than the 20th of the month.

The Editor.

Indianapolis Holds Open House

On May 7th the Indianapolis Amateur Movie Club held its fourth annual Open House, jamming the Memorial Auditorium with a capacity crowd of 500. The program included "The Martins and The Coys," 8mm. monochrome, produced by a group of Indianapolis Amateurs assisted by club-member Dr. J. W. Sovine; "Our Feathered Friends," 8mm. Kodachrome, produced by club-members Manley and Stanley Brown; "The Royal Visit, Halifax, 1939," 16mm. Kodachrome, produced by T. J. Courtney; "Garden Life," an AMERICAN CINEMATOGRAPHER prize-winning picture, filmed in stop-motion, 16mm. Kodachrome by Eugene L. Ritzmann, of San Francisco; "Bees," 16mm. Kodachrome, produced by A. J. Thomas, of Indianapolis; "Deep South," 16mm. Kodachrome, produced by club-member Dr. William Gabe; and "Highlights and Shadows," 16mm. sound-film made for the Eastman Kodak Co. by Dr. J. S. Watson, A.S.C. The silent films were accompanied by a musical score planned



Indianapolis Amateur Movie Club's "Open House." Left, committee in charge; front row, l. to r., Dr. Wm. E. Gabe; Elmer M. Culbertson, Carl A. Luethge; rear row, l. to r., Stanley Brown, Alfred Kaufmann, Manley Brown. Right, view of part of the audience.



by club-member Dr. L. E. Foltz, which received almost as much comment as the films. Highlight of the program, judging by applause and comment, was Dr. Gabe's "Deep South," with "Garden Life" a close second.

Staff for the show included Alfred Kaufmann and Wilbur Worl, 16mm. projectionists; Manley Brown and Elmer Culbertson, 8mm. projectionists; musical scoring by Stanley Brown and Dr. Foltz; commentator, Dr. Gabe; and ushers, C. A. Luethge, C. A. Purdy, H. H. Riegner, J. A. Bender, C. Wetzel and O. Peters.

The aim of the program was to show the visitors what amateurs can do with modern home-movie cameras. As a program note stated, "We have intentionally prepared our program to show the average movie camera owner what can be accomplished by devoting a little time and thought to their movie making. All of these amateur pictures could be equalled or surpassed by the average amateur if he would plan his pictures before exposing his film."

ELMER M. CULBERTSON.

Washington S.A.C. Banquets

The Washington (D.C.) Society of Amateur Cinematographers held its annual banquet at the Fairfax Hotel on May 16th. With an estimated attendance of between 40 and 45 members expected, 65 showed up and ate the hotel out of house and home. Highlight of the evening was a showing of the AMERICAN CINEMATOGRAPHER prize-winning film, "Nation Builders," made by James A. Sherlock of the Australian Amateur Cine Society. Everyone enjoyed it and commented that it was a great lesson in telling a story in movies without resorting to titles. President William McConnell of the Washington 8mm. Club conferred an honorary Life Membership in his group upon Washington S.A.C.-President Chedester, and then appropriately gave the featured talk of the evening, on the subject of "Good Fellowship in Movie-making."

The Club's recent auction, reported in the last issue of THE AMERICAN CINEMATOGRAPHER, was a huge success. More than enough to purchase the desired screen was raised; the members entered fully into the spirit of the affair and everything sold went for high prices. The Club is planning to hold a picnic late in June at the Chesapeake Beach summer-home of Vice-President Everett Marsh.

JOHN T. CHEDESTER, President.

Synchro-Sound for Long Beach

The first amateur-produced color films with synchronized sound to be made by a member of the Club were shown at the May 7th meeting of the Long Beach (California) Cinema Club in the auditorium of the Y.W.C.A. President Mildred J. Caldwell demonstrated the accuracy of the new synchro-sound method by exhibiting 600 feet of Hawaiian pictures accompanied with perfectly synchronized narration and music. For comparison she showed the remaining 300 feet and gave the narration by using a microphone. The films showed the approach to Oahu, the making and selling of flower leis, the sugar and pineapple industries, tropical fruits, the Oriental section of Honolulu and other scenic features of the islands. Clarence Aldrich showed a very clever comedy shot in Kodachrome in the Red Rock Canyon and two reels of the Bathing Beauty Parade.

On May 13, the members left by chartered bus for the Owl Auditorium in Los Angeles for a get-together of all Southern California Clubs. An outstanding picture of the year was exhibited by each Club. The Long Beach group took a 400-ft. black and white 16mm. film, "Father's Time," produced by Raymond Fosholdt.

Friday, May 17th, was set aside as Long Beach night at the Photographic Show held in the Roosevelt Hotel in

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HERE'S HOW

TRIPLE TURNTABLES

Some time ago I read in a description of one of Duncan Mc. D. Little's "Movie Parties," that triple turntables were used in scoring the pictures. Why do you suppose triple turntables, instead of double, were used?

Dr. Franz B. Buerger,
Long Beach, Calif.

The most probable reason for using triple turntables would be to make possible the use of sound-effects in addition to music, without interrupting the continuous flow of music from one disc to the next. The sound system would be one which would permit the "mixing" of sound from any or all of the three pickups at once. In use, turntables 1 and 2 would be used in the usual manner, to play musical recordings, fading from one to the other as required. The third would be used for sound-effects records—crowd noises, applause, sirens, airplane motors, train noises, surf, and the like—played at the same time as the music, and at a different volume-level, louder or softer than the music as might be desirable. Such sound-effects records may be obtained from the RCA Manufacturing Co., Camden, N. J.; the Speedy-Q Sound Effect Record Co., of Los Angeles; or the Standard Radio Co., of Chicago.

FOCUSING TAPE-MEASURES

What is the name and address of the manufacturer that makes the circular tape-measure that photographers in the Hollywood studios use in front of their cameras?

Allen Brown,
Hawthorne, N. Y.

The tape-measures used in the studios aren't at all special—just ordinary carpenters' tapes, usually from 25 yards to 100 feet long. The one we use was bought in an ordinary hardware store; as we remember, it cost 35c.

CUTTING IN MUSICALS

I have been wondering for years whether, in professional productions, when a singer is being photographed, the cuts from long-shot to medium-shot or close-up literally in the middle of a note are the result of using several cameras or expert work on the editing-block after such scenes are overlapped.

Reginald E. LaBelle,
Dalton, Mass.

In the very early days of sound, such scenes were made using many cameras and getting every possible angle at one "take." Today, however, virtually all such scenes are made by pre-scoring. The singer records her song first, making only the sound-track record. Then the picture is made, silent, playing back the previously-recorded sound from a film or disc reproducer electrically synchronized with the camera, while the

singer simply "mouths" the words—sometimes actually singing softly—and has only to concentrate on looking attractive. In this way, as many angles as may be desired can be filmed separately, each under the most favorable photographic conditions, and each perfectly synchronized to the one sound-track, which in turn has been made under ideal musical and acoustic conditions. The cutting from one camera-angle to another is then easily accomplished in exactly the same way that cuts are made between any ordinary dialog shots.

THIRD DIMENSIONAL MOVIES

I recently saw the Pete Smith short, "Third Dimensional Murder," which is observed through a viewing-glass with a red filter over one eye and a blue filter over the other, and a film on which one image is toned red and the other green. I have been experimenting to produce this same effect by projecting two stereo transparencies, one toned in red and the other in blue, viewing the picture on the screen with an Orthoscope having the two colors in reversed position. So far I have been unsuccessful; the toners I have been able to use do not give the desired effects, and the picture I get on the screen shows a muddy brown. I do not like to waste motion picture film (16mm.) on further experiments before I am sure of a reasonably good result. Can you give me any information on how the colors were produced, or is there anything published describing how to make such third-dimensional movies or transparencies?

Arthur Wolff,
Chicago.

The film you saw was produced by Metro-Goldwyn-Mayer, so we referred your question to John M. Nickolaus, M-G-M's Laboratory Supervisor. He states that you have probably been using metallic toners, and that the only successful way to get this two-color stereo effect is through the use of dye-tones and a rather complicated imbibition printing process, which as you probably know is comparable to the Eastman Wash-off Relief color print (still) process, or to the familiar rubber-stamp. Furthermore, he states that the colors used must be absolutely pure—a pure, monochromatic red, and an equally pure, monochromatic blue which are exactly complementary. The dye-tone and imbibition printing eliminate the solid, metallic-silver images which, when superimposed, produce the muddy effect you mention.

Mr. Nickolaus suggests that a vastly more simple method of obtaining the third-dimensional effect you wish would be to use "crossed" polarizing filters over your two projectors, and viewing-glasses using similarly "crossed" polarizing screens. We have seen third-dimensional 16mm. and 8mm. movies

For many years one of the most important services THE AMERICAN CINEMATOGRAPHER has performed for its readers has been the answering of technical questions about all phases of amateur and professional movie-making. These questions are usually answered by individual letters, to permit going into the necessary detail. However, in response to many requests, we have decided to publish, in abridged form, some of these questions and their answers which we believe may be of interest to other readers. THE EDITOR.

and 35mm. still transparencies made and projected by this method, and the results are perfect. There is the further advantage that this method permits the use of Kodachrome.

The only reason the professionals used the two-color toning method instead of this was that for commercially practical professional use they necessarily had to use a single film and a single projector, instead of the two required for the pola-screen method. Since, however, you appear to be using two projectors anyway, this objection does not hold good in your case, and the results obtained from the polarized-projection method are so greatly superior to any other that we would strongly urge you to use it.

NEUTRAL-DENSITY FILTERS

I have frequently seen, in articles about professional cinematography, references to "Neutral-Density" filters. What are they, and for what are they used?

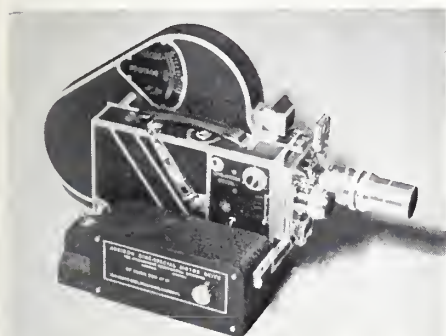
W. C. McCoy,
Washington, D. C.

The "Neutral-density" filters are just what their name implies: they are neutral-colored filters which do not have any color-filtering effect on the picture, but which by reason of their density hold back part of the light from reaching the film. They are available from several manufacturers, including Eastman Kodak (Wratten); and Harrison, and Scheibe. They are usually available in five densities, termed the .25, .50, .75, .100 and .200, according to the amount of light each absorbs. Since they have no color-filtering effect, they may be used on any type of film (including Kodachrome), and they have the same factors on all types of film. Their factors are: .25, 1.8; .50, 3.1; .75, 5.6; .100, 10; .200, 100.

They have several uses. Since they absorb a part of the light, but without changing the rendition of color, they may be used to control exposure. For example, we recently made some exterior scenes using 16mm. Agfa Triple-S Panchromatic film, which has a speed-rating of Weston 100 to daylight. The shot was in bright sunlight, and the meter indicated an exposure of f:32—but the lens on the camera would only stop down to f:16. By using a .100

(Continued on Page 306)

...THE SHOWCASE...



Sound Drive For C-K Special

A new synchronous electric motor-drive unit for operating a Cine-Kodak Special in synchronism with a sound recorder has been developed by the Auricon Division of the E. M. Berndt Corp. The device is intended primarily for use with the Auricon 16mm. sound-on-film recorder, but it should be possible to use it in conjunction with other recorders operated by suitable synchronous motors powered by 110-Volt Alternating Current of suitable frequency.

The Auricon Motor-drive weighs only four pounds and is finished in black baked enamel with chromium trim matching the finish of the Cine-Special camera.

The Cine-Special Camera is attached to a motor-drive by the camera's tripod socket. No alteration to the camera is necessary to mount the camera on the motor-drive. Both small and large size standard tripod sockets are provided in the base of the motor-drive, so that any tripod can be used. Four screw-holes in the base allow the Auricon motor-drive to be mounted in a "blimp" without alteration.

The Cine-Special camera-magazines (film chambers) can be changed without removing the camera from the motor-drive. To protect the camera mechanism from damage, the motor-drive is interlocked electrically with the camera's start-button. A sliding post must first be placed in position over the Cine-Special camera start-button, holding it in, before the motor-drive will operate.

For field use where regular A.C. house current is not available, this motor-drive operates from an Auricon field power-supply. The power-supply, no larger or heavier than a portable typewriter in its case, will operate a complete double-system talking picture set-up consisting of an Auricon Sound Recorder and a Cine-Special camera driven by the Auricon motor. Over 4000 feet of film (2 hours of synchronized talking pictures) can be run before recharging of the self-contained power-supply battery is required. Then, recharging of this 6-volt battery is accomplished overnight.

New, Durable Lens-Coating

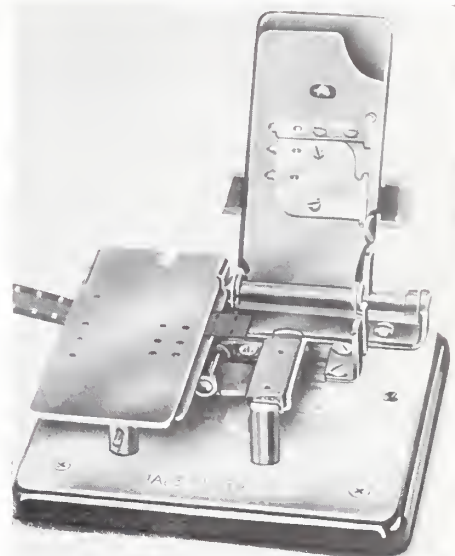
A new anti-reflection lens-coating service is announced by the National Research Corporation, of Boston, Mass. The process used is licensed under the well-known Cartwright and Turner patents, and consists of evaporating a suitable fluoride in a high vacuum. The vapors condense on the surface of the lens to form the non-reflection coating, which is then hardened.

National Research executives claim two outstanding features for their firm's lens-coating service. In the first place, they state that they are able to handle coating on a large-scale production basis, and to give rapid delivery. In the second place, they state that they have succeeded in developing lens-coating films which are hard enough to be washed with soap and water and rubbed with ordinary cleansing tissue without suffering damage. The quality of the films, they feel, is something new to photographic trade. Now, they state, coated lenses can be handled in the same manner in which a good, uncoated lens would be treated. As far as practicality is concerned, this represents an extremely important advance.

The firm has, it is stated, had experience in coating not only camera lenses, but also projection equipment and sound-recording optical systems. In the latter case it is necessary to coat for minimum reflection in the ultra-violet end of the spectrum. The firm has, it is stated, done this type of work both in quantity production in new lenses, and on equipment already in use in the field.

DeVry Sons Carry On Firm

With the election of William C. DeVry to the presidency of the DeVry Corporation of Chicago, the high tradition of this internationally known family name will be carried on in the film industry by the son of its lately deceased founder and president, Dr. Herman A. DeVry. Another son, Edward B. DeVry, has been chosen as secretary-treasurer of the firm and president of its educational subsidiary, DeForest Training, Inc. The new president had been actively in charge of his firm's selling organization at the time of his father's death, having filled the post of sales manager since 1932. His brother had been secretary of the projector manufacturing organization since 1928. Both have had practical experience in commercial motion picture production, and are well versed in the projector problems of both the user and producer. The new president has been especially active in furthering his firm's aggressive development of new types of 16mm. sound projectors.



New Bools Splicer

The American Bolex Co., Inc., announces the new Bools Automatic Splicer for use with 8mm., 9.5mm. or 16mm. film, silent or sound. While the new splicer was designed in Switzerland, it is now being produced in America. The device is made entirely of steel, heavily plated in satin chrome. The whole splicer is mounted on a skid-proof and warp-proof ebony-finished wood base. The cutting leaves are stated to be extremely precise, so that splices made with the device leave neither a white or black line, indicating that the emulsion neither overlaps nor separates. The file is of hardened steel and double-edged for long service. It is accelerated in operation by means of a spring.

Grooves in the cutting leaves are provided to catch surplus cement and prevent it from running down the films being spliced. This feature is stated to be particularly important in preventing damage to Kodachrome.

Princeton Photo Switchboard

Price Industries Corporation, makers of the Princeton line of photographic products, announces the Princeton "Photo Switchboard," a single compact unit for controlling many light-sources. In addition to its obvious uses in the still-photographer's multiple-flash and dark-room work, the new device makes an important appeal to users of cine-equipment. It can serve as a high-low control for Photofloods, and as a remote-control to switch Photofloods or spot-lights on and from camera position. In addition, it will automatically turn one light on as another is turned off: thus it can serve in projection as an automatic control to turn off the room lights as the projector is switched on, or vice-versa. The device sells for \$6.95.

Controlling Color

(Continued from Page 263)

versally recognized as the color of purity. Another, when she found herself losing her husband, was black, which suggested not alone sadness, but also formed a subtle contrast with the more brilliant costumes of Doña Sol. Yet another, worn during two of her most important sequences, was blue—recognized for ages as symbolic of “true blue” constancy and faithfulness.

Doña Sol, (Rita Hayworth) on the other hand, was throughout the patrician seductress. She made her first appearance in a neatly-tailored suit of purple—the patrician color, as evidenced by the phrase, “born to the purple.” Later, increasing use was made of more vivid colorings in her costume. In the sequence at the dinner where she first ensnares Gallardo, she is first seen in a white evening gown. Later, as she sings to him, playing the guitar, a close-up of her fingers highlights the scarlet paint on her nimbly-flying finger-tips. In another scene, where she and Tyrone Power play their most passionate love-scene, we see her in a close-up, after which the camera dollies back to reveal the flaming orange bodice she wears, as her scarlet-tipped fingers entwine themselves in Power’s black hair. (The combination of red and black has always been symbolic of danger—passion—and evil menace.) This costume, incidentally, forms an effectively dramatic contrast with the simple black dress worn by Linda Darnell when she enters the scene later.

Power himself—always the “Spanish begger” at heart, is dominantly costumed in various shades of brown, with of course the inevitable exception of his matador costumes which in the various sequences include blue-and-gold in the first bull-fight and finally a pure white outfit in the last, avoiding any reds except in the inevitable and necessary cape, with which he plays the bull.

His mother—Nazimova—is throughout the dominant note of tragic foreboding: she is seen mostly in funereal black and grays, and once in burnt terra-cotta. Nacional, too, is always in black save in his ring trappings, for he is the plain man—the primitive, protesting always against the life of the bull-ring.

Coordinating these concepts with the detail requirements of motion pictures was no small task. For a single example, there is the scene in which Juan’s wife, knowing already something of her mate’s dalliance with Doña Sol, endures the whining complaints of his leech-like sister and brother-in-law for as long as she can, and finally bursting into anger, drives them furiously from the room, after which she has recourse to utterly feminine tears.

As she passively endured the complaints of her sponging relatives, she was clad in a blue costume. But it seemed impossible to me that she—or any actress—could convincingly play a scene requiring a display of passionate rage

such as followed, while clad in cold blue. A crimson note—no matter how tiny—would highlight that surge of anger. The problem was solved with a scarf. During the early part of the scene, she kept it rolled in her hand. When her anger finally broke forth and she denounced the hangers-on, I had her unroll the scarf—a natural action for in gesticulating angrily, you might expect her to loosen her grip on it. Finally, as she rushed to the wall, seized a sword, and angrily beat the intruders from the room, the scarf, still in her hand, painted flashing streaks of crimson with every movement.

But then—she must weaken and dissolve in tears. The blue note should now dominate. The crimson of the scarf would again be intrusive. How to get rid of it? First I tried having her toss it on a desk as she turned back into the room. But there was no guarantee it would be concealed from the camera. Finally I had a small lead weight sewn into the corner of the scarf, and instructed her to toss the scarf on the desk so that the weighted corner fell over the edge. That worked perfectly; the weight whisked the bit of crimson lace out of sight behind the desk, thus effectively removing its now dramatically discordant note of red.

It may seem that these details are affected—unnatural. Well, so, too, are many of the conventions we recognize as important dramatic aids in black-and-white cinematography. For example, suppose our script establishes that a man’s wife has left him; he is alone, broken-hearted, and contemplating suicide. Every cinematographer in the world would play such a scene in low-key lighting. Yet in real life, a man might feel those emotions in a brilliantly-lit room—perhaps even amid the gayety and bright lights of a night-club. Yet to get the fullest dramatic effect on the screen, we would do the unnatural thing, and present the scene in low-key cinematography.

Unnatural, yes. But more truly expressive of inner emotion. And that is what we who as directors or as cinematographers are striving to picture emotions on the screen must do in conveying a visual impression of those emotions, whether we do it in monochrome or in color.

There were many things we did in making “Blood and Sand” which were unnatural. On the set, they looked incredibly artificial. But on the screen, they gave the effect we desired; often they proved more realistic than reality its literal self.

In this, we had excellent precedent in the methods of innumerable painters from the dawn of time. If El Greco or Velasquez painted a cardinal, or a king, he strove to depict not only a cardinal or a king, but one who typified the regal. The crimson robe was not merely a crimson robe, but a crimson robe which typified the splendor of all imaginable regal habiliments.

In its general impression, that is; If you study such a painting in minute detail, you will see that the painter, to gain his effect, used almost every imaginable color from deepest black through purples, greens, yellows, and so on to create his highlight-and-shadow effects. We repeatedly strove for similar effects, by similar means. I kept a spray-gun with an unusually wide range of paints constantly standing by on the set, so that we could spray any prop or any costume to get the desired effect. I recall, for example, the way we sprayed a white shirt worn in one scene. It was supposed to be white; but we sprayed it with traces of many other colors—greens and gray-greens, even touches of blue and blue-greens. I am sure that most of the people in the studio thought my senses had taken leave of me when they saw what I had done to that shirt. But when we screened the rushes, that shirt took its exactly right place in the scene, and appeared much more real than if it had remained a literal white shirt!

In the same way, in the hospital scene of El Nacional’s death, the dominant colors were gray-greens and blues. The studio had provided some excellently authentic hospital accessories—white sheets, a bed and surgical instrument-cases immaculate in white enamel. They would have proved a jarring, discordant note in the scene. But when they were sprayed a dull gray-green, they fitted perfectly—and I am sure none except possibly the most super-critical medico will notice that they are not the regulation white.

In the chapel scenes, we again heightened the mood by spraying the altar-ornaments, the crucifix, and so on, a green like the patina of old bronze. We heightened this hue, which followed out the sombre green-gray of the set, by doing much of the lighting with green filters over the lamps. Of course, in the closer shots, we kept the green light away from the players, though in the longer shots, we let players and set alike show traces of the greenish light. I have not as yet found any people who noticed this artificiality—but I’ve found many who complimented me and the cinematographers on the emotional feeling of that sequence.

Cutting, too, is something which must be learned all over again in a true color film. In some instances, the fact of color makes for faster cutting; in others, for slower. There can be no general rule, for as in everything else in cinematics, each scene must set its own rules. But things which are of little or no importance in black-and-white become vital to either make or break a sequence in color.

For example, I recall that some years ago one of the art-directors at Paramount experimented with sets with red walls. The shade chosen was one which in black-and-white photographed as a pleasing, neutral dark gray. They were used through the whole production. In a Technicolor picture, I would hesitate

Popular Choice in the Hollywood Reporter
Preview Poll

BEST PHOTOGRAPHY

ORSON WELLES'
"CITIZEN KANE"

A MERCURY PRODUCTION
RKO-RADIO RELEASE

GREGG TOLAND, A.S.C.

DIRECTOR OF PHOTOGRAPHY

BERT SHIPHAM, Operative Cameraman
EDDIE GARVIN, Assistant Cameraman

Negative Processing and Dailies by
CONSOLIDATED FILM INDUSTRIES, Hollywood

Eastman *fine-grain* Release Prints by
DE LUXE LABORATORIES, New York

EASTMAN FILMS
BRULATOUR SERVICE

to use such a set for any but the shortest flash.

In "Blood and Sand," we introduced Power, playing Juan as an adult, in this fashion. His cuadrillo is travelling in a fourth-class railway carriage. The other three discuss their progress at some length. His voice is heard offstage. Finally we cut to a full-screen shot of a newspaper, which he is pretending to read. The paper comes down, and we have a big-head close-up of the young matador, reclining in his seat, his head resting against the folds of his brilliant red muletta. In monochrome, we could hold that close-up for almost any footage—one hundred, three hundred, a thousand feet if need be. In color, the emotional impact of that red background is so strong that the shot could only be held for a few seconds. Yet it was necessary: it gave Juan's first appearance the necessary impetus which helped him build and carry his vivid characterization throughout all the ensuing reels.

On the other hand, there are times when color must be cut for far slower tempo that we would do in monochrome to obtain the same, or rather a similar dramatic effect.

All told, controlling color in this manner, for dramatic effect, is a matter of being unnatural—often supremely unnatural, in order to produce psychologically natural and emotional visual effects. It is at present a matter of exploring a new medium—trying to learn to express ourselves in a new language. But as we film craftsmen—directors, cinematographers and art directors together—learn how to express ourselves in that new language, I am confident we will discover that we have gained an invaluable new means of expression, both pictorial and dramatic **END**.

Camera-Guns

(Continued from Page 267)

this is due to the pioneer efforts of the two far-sighted men who first saw the possibilities of the idea, and pushed it on to a successful conclusion—Captain A. E. Nesbitt and Commander Forrest P. Sherman.

How far the camera-gun idea may go cannot of course as yet be disclosed. Suffice it that further improvements are constantly being made in the device and its operation, and that it is doing its part magnificently in making America's aerial gunners more proficient in their work of defending the country from any aerial aggression. In wartime Europe, the camera-gun principle has, so we understand, found a further application under service conditions. In Britain's latest fighting planes, a special camera-gun is interlocked with the ship's real armament, so that each time the pilot fires at an enemy, he automatically makes a picture-record. These pictures, when they show hits, are regarded as conclusive official proof of the downing of an enemy aircraft when no other visual confirmation of the pilot's victory is available. And since in this instance,

at least, the camera cannot lie, the camera-gun's evidence, which during the flyer's training period gave theoretical proof of his skill at aerial gunnery, now also gives practical proof of his use of what he has learned! **END**.

Super-XX

(Continued from Page 269)

ditions, this might be a liability: but in studio camerawork, where lighting is under the absolute control of the director of photography, it becomes an asset. We can much more effectively light to add contrast to an inherently flat film than we can light over-flatly to minimize contrast in an inherently contrasty emulsion.

Moreover, we have found that this technique gives us a considerably wider range of latitude not only in the range of effects possible, but in lighting to obtain those effects. Under modern production conditions, both of these factors are of very practical importance. Obviously, it increases the artistic possibilities of any scene. But having that wider range of latitude is also a vital margin of safety in instances where speed of production is important. It is very nice to talk of precision lighting and of being able to paint our effects with, so to speak, a fine brush instead of a coarse one. It is very pleasant to be able to do so in actuality—when conditions permit. But they do not always permit. On a big set when the overhead charges are mounting up at an appalling rate, or on a more normal set when everyone is straining to maintain or improve upon a none too generous shooting schedule, the broader brush of wider latitude in film and lighting is increasingly desirable.

This is of course particularly evident in making moving-camera shots or in filming action in which the players move extensively around the set. All too often, as all of us realize, a principal player may have to pass unusually close to some lighting unit the beam of which is vitally necessary in some other phase of the action, but which is at that point definitely too intense a light on a person passing close in front of it. In some instances, such units may be rigged on a dimmer and brought down as the player passes by, then restored to the desired intensity. But this technique is not always possible; sometimes, it is not even desirable, as it can easily introduce an obviously artificial note in the effect on the screen.

But if a large part of this compensation can be taken care of by a wider range of latitude in the film, all concerned will benefit. The effect on the screen will be more natural; the production unit can work faster and more efficiently; and the director of photography will have one less source of worry.

The whole matter of using such super-fast films for production camerawork can be summed up by the statement that it restores to the director of photography a much-needed margin of control

over the effects he puts on the screen. Contrast, instead of being largely dictated by the inherent characteristics engineered into the film by a factory several thousand miles distant, comes again into the direct control of the man at the camera. If he wants contrast in any or all of his scene, he has the means of putting it there, through his lighting. If he wants soft gradations, he can obtain them, too, without having to sacrifice normal modelling on sets and people to an attempt to counteract inherently high emulsion-contrast. If he wants strictly normal effects, he can obtain them, too.

Certain elementary precautions should of course be observed in making the transition from the so-called "production-type" films to these ultra-fast emulsions. The change is emphatically not one which can be made overnight or with but one or two cursory tests. The specific requirements of lighting this film, not only as regards its inherent characteristics, but in relation to both laboratory processing and the individual cinematographer's own lighting technique, should be very thoroughly understood.

The laboratory treatment given this film is also of particular importance. To get the best results, the laboratory and the cinematographer must work hand in hand. There are some otherwise excellent laboratories where this cooperation seems lacking; frankly, I would hesitate before attempting to use the film under such circumstances.

But where an individual has a reasonable opportunity to familiarize himself with the use of the film, and the necessary mutual understanding between cinematographer and laboratory exists, I am convinced that the use of such super-speed emulsions as "Super-XX" for production camerawork is a positive advantage. Rightly used, it permits the cinematographer to exercise a far greater degree of control over the quality of his work, and to do much of it more easily and more efficiently. It is no wonder, then, that an increasing number of outstanding directors of photography are following Valentine's pioneering lead and successfully taking the unconventional step of using this apparent "special-purpose" film as a production emulsion, to the end that they may put better photography on the screen. And I am confident that as more of us do so, we will find that the film manufacturers, in giving us this emulsion, have given us a much more useful tool than they or we anticipated.

Black-light Flash

Latest in still newspicture-making is the "blackout synchro-flash" used by British newspapers. An oversize Wratten 88-A filter is used over a light-tight flash reflector housing a GE No. 21 Photoflash bulb, and the camera loaded with infra-red sensitive film. With an average exposure of f:5.6 at 1/50th second, satisfactory exposures are made with no visible light at all.

BEHIND THE SCENES

BACK of the arresting beauty of modern screen productions stands the unvarying high quality of Eastman negative films. Each does its specific work surpassingly well. From long experience, directors and cameramen take for granted this vital contribution to each scene's success. Eastman Kodak Company, Rochester, N. Y.

J. E. BRULATOUR, INC., *Distributors*

Fort Lee

Chicago

Hollywood

PLUS-X

for general studio use

SUPER-XX

when little light is available

BACKGROUND-X

for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS

Photography of the Month

(Continued from Page 273)

sistently fine camerawork. Essentially farce-comedy (complete with an assortment of comedy falls of which Mack Sennett could be proud), "Love Crazy" comes to the screen with the technically smooth and artistically neat visual mounting which has become as much an M-G-M trademark as Leo the lion. Sets and players are presented to consistent advantage, in a straightforward, if not imaginative manner and, especially in the introductory sequence, a pleasing degree of mood and pictorial effectiveness are obtained wherever possible.

All told, "Love Crazy" isn't likely to win anybody an Academy Award, but it is diverting entertainment, presented with the workmanlike photography of which Ray June is so thoroughly a master. But we'll admit we'd like to see him draw another assignment which would give his talents fuller scope—one like his memorable "Arrowsmith." to cite a single example.

MILLION DOLLAR BABY

Warner Brothers' Production.

Director of Photography: Charles Rosher, A.S.C.

This swift-paced comedy-drama hardly offers director of photography Charles Rosher, A.S.C., opportunities for the kind of camera pictorialism which have in the past put him in the extremely narrow circle of Academy Award winners, but he makes very capable use of what opportunities it affords. The action spreads itself over a rather wide range of settings, from a cheap boarding-house to millionaires' homes and exclusive night-clubs. He handles them all very satisfactorily, and when the occasion arises, achieves pleasing, if minor, pictorial effects.

His treatment of the players is uniformly pleasing; without any opportunity for obvious glamor-photography, he keeps all of them looking very well indeed, in spite of the obvious limitations of the comedy mood. It would seem, however, that camerawork might have heightened Priscilla Lane's transition from a shopgirl to a Fifth Avenue debutante upon whom, as the dialog is at pains to point out, the services of hair-dressers, coutouriers, tutors, and every conceivable glamorizing influence had for months been lavished, had her earlier sequences given her at least a slightly less attractive visual presentation. Following this, presenting her, as was done, with some of Rosher's most flattering photographic treatment in the scene of her social debut would have made the transition doubly effective.

The operative camerawork seemed somewhat below par, especially in several instances of poorly-timed focus-changes in follow-focus scenes.

The special-effects work was not credited, but must be assumed to be the work of Byron Haskin, A.S.C., and his

capable staff. It is excellent, especially in the film's opening sequence.

IN THE NAVY

Universal Production.

Director of Photography: Joseph A. Valentine, A.S.C.

Special Photographic Effects: John P. Fulton, A.S.C.

The Abbott and Costello brand of extremely broad comedy hardly makes for pictorial cinematographic opportunities, so the best director of photography Valentine could do on this one was to give it conventional high-key comedy photography. This he does efficiently. But a single sequence offers him anything pictorially: this is the Hawaiian night-effect sequence in which the Andrews sisters swing "Hulu-Ba-Luau." Art director Jack Otterson and his staff provided a really photogenic set for this number, and Valentine's lighting and camera work make it a really beautiful sequence. His choice of camera-angles in some of the other musical numbers—especially the "Gimme Some Skin" one—is often highly effective.

On the other hand, his treatment of the people is by no means on a par with Valentine's usual standard. Especially during the early sequences, leading-lady Claire Dodd's appearance is none too satisfactory, and throughout the picture, the face-tones of the men are not at all consistent. It must be said, however, that certain inescapable technical considerations must have handicapped him. Virtually all of the male players are shown throughout in Naval uniforms, in some sequences wearing the regulation dark blues, and in the concluding sequences, tropical "whites." Keeping faces consistent under such circumstances is unquestionably a problem for both the cinematographer and the make-up artist. Offsetting this is the fact that Valentine has done wonders with the none too photogenic Andrew sisters.

Special-effects work by John Fulton, A.S.C., plays a vital part in making this picture possible. Making a picture dealing with the Navy is none too easy at any time; under the present strained international situation, where for so many reasons the strictest secrecy must be observed, it becomes incredibly difficult. Fulton's use of projected-back-ground process-shots is outstanding. So, too, is film-editor Philip Cahn's skillful intercutting of these and conventional studio-made scenes with highly effective stock-shots of the fleet.

The climax of the picture hinges on a wild comedy sequence in which a battleship apparently runs amuck under the unintended—and blind—piloting of comedian Costello. This is portrayed in a series of commendable miniatures and projection-shots which stand greatly to Fulton's credit. The miniatures are by no means the best of which Fulton is capable, but when it is considered that they were obviously done on a comparatively limited budget (for first-class

marine miniatures are both large and costly!) and on a schedule badly crowded by imminent release dates, they deserve commendation indeed.

Vacation Movies

(Continued from Page 275)

For that matter, I've seen vacation movies built around the reactions of some personal household pet taken on the trip. For example, you can build an unusually entertaining movie on the apparent reactions of the family pup on a vacation-trip. Get plenty of close shots of his reactions to the new and different locations. Intercut them with your scenic shots and your shots of what the human members of the party do. Then title your picture as though it were the dog talking—"I was fascinated by all the new scents of the countryside"—"They made me wear a leash in Yosemite"—"I took a dip in the Atlantic, and so did Master and Missy"—"Bobby and I went fishing. I barked at the frogs, but he caught a fine rainbow trout"—and so on.

Try out some of these ideas on this summer's vacation, adapting them to suit the needs of your family and your particular way of spending the summer. And when you come back and edit your films, you'll find a new attitude on the part of the folks you ask to attend your screenings. These "human-interest" touches, intelligently carried out, are what make audiences really like to sit down to a screening of vacation movies!

Kodachrome

(Continued from Page 276)

or shots of people, gives the most generally satisfactory effects: it is near enough a front-light so the overall illumination will be good, and just enough away from it so you'll get nice modeling and an interesting picture.

Cross-lighting and back-lighting are possible in Kodachrome—and often very effective—if you remember to expose properly. Take your meter-readings for the shadows, and the highlights will take care of themselves.

In photographing people outdoors in Kodachrome, I like a soft, even lighting that's free from heavy shadows. As a matter of fact, you'll often get some of your best Kodachrome close-ups on a slightly hazy day, or if you make the shot with your subject under a light shadow.

Composition is a most important thing in making any sort of a color picture, for if there are splotches of strong color in the wrong place, they'll distract attention from the really important parts of the picture. For this reason, be especially careful to avoid unwanted color or action in the background of a Kodachrome shot of a person. And watch the colors in your background! Any strong color in the background can

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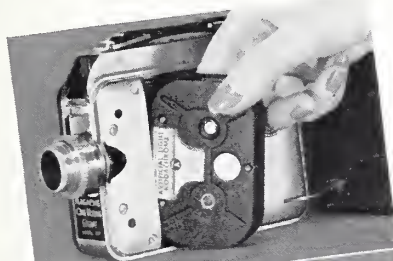
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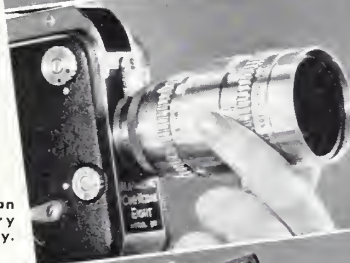
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THIRD, it may be fitted with any of seven accessory lenses, ranging from a 9 mm. wide-angle lens to a 76 mm. (3 inch) telephoto. And the enclosed view finder is easily, accurately adapted to give you the field for each. The standard lens is the Kodak Anastigmat 13 mm. f/1.9.

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be disturbing, but I think the most eye-catching are strong reds and blues. They'll pull attention away from even the best close-up of the prettiest girl!

In the same way, keep an eye out to avoid unwanted horizontal lines close to the top of your frame. All too often a line like this, such as may be made by a railing, part of a roof, or the like, can give an audience an unpleasant feeling that perhaps your picture is a trifle out-of-frame.

Reflected color is another thing that can be a disturbing factor, especially in Kodachrome people. Very often you won't be visually conscious of it when making your scene, but the film can pick up surprising reflections in color from nearby colored objects. For instance, if you photograph a girl near a red barn, even though the barn doesn't show in the picture, her face and her clothes, too, if they're light-colored, may very well pick up a surprising amount of red reflected light from that strongly-illuminated red area. I've seen color-shots in which a girl's face picked up a blue tinge from similar color-reflection, or even a greenish tinge from strongly sunlit green foliage.

Filtering in Kodachrome is simple. Unless you're one of the people who like to use Type A Kodachrome, with its daylight-corrective filter outdoors, there are only two filters that can be of much use in outdoor Kodachrome. These are the Kodachrome haze filter, which is often useful when making extreme long-shot landscapes or working in the mountains, for eliminating minor atmospheric haze and cutting down the excess blue of distance, and the polar-screen. My personal preference is in most cases for the polar-screen. This is excellent to use in penetrating haze—often far better than the haze filter. It is also excellent for darkening blue sky or water for special pictorial effects.

If for any reason you want to make night-effect exteriors in Kodachrome, it's easy. Just use Type A film *without* its daylight filter—and underexpose.

In general, I've found that the simplest and most straightforward technique in Kodachrome is usually the best. Keep your lighting simple, and your exposure full, always exposing for the shadows. Watch your composition for unwanted movement and splashes of strong colors in the background, if you don't want attention distracted from foreground action. Be on the lookout, too, for anything that might give embarrassing color-reflections on close shots of people. Then your Kodachrome shots are likely to be uniformly successful!

Camera-Angles

(Continued from Page 277)

move in closer still, to close-ups. This shows in the utmost detail *what* the people are doing. It may be a close-up of the face of some person, showing his or her reaction to the rest of the action (and in professional sound-films, dialog.)

It may be a close-up of some operation, showing clearly just *how* it is being done.

But in any event, this gives us a natural progression from the broad view of the picture to the most important detail. It is exactly the impression you'd get walking into that room or scene. First, as you initially saw it, you'd get the broad, long-shot view. Then, as you came closer, you'd make out who the people were—the medium-shot angle. Finally, as you approached to conversational range, you'd get close-up views of the people's faces, or of what they were doing.

This is a most important thing to remember in movie-making, for after all, the audience can only see the scene or action through your camera's lens, and if you keep them to long-shot angles, they'll miss the really important details of who the people are and what they're doing.

In professional pictures, the use of close-ups can be overdone; it has been, often enough, in films in which some all-powerful star insisted that she be given close-ups in every sequence, whether her action deserved them or not. But the reverse is true in amateur movies. I don't think there has ever been an amateur movie which had too many close-ups; most of them don't have enough. Remember, when you're making any sort of a movie—and particularly your vacation films, upon which there can usually be no retakes—to get plenty of close-ups. They can always be cut out if you find any of them aren't needed; but to want a close-up and find you haven't it leaves a bad gap in the continuity of any sort of film.

And remember, by the way, that this is doubly important in Kodachrome. Even in 16mm. the definition of Kodachrome long-shots leaves something to be desired. On the other hand, and especially with focusing-mount lenses, Kodachrome is at its best in close shots.

Incidentally, in shooting close-ups, it isn't a bad idea at all to follow the professional's example of using a long-focus lens for such shots. Almost always, the face of the person being close-upped is the most important part of the picture. The background is relatively unimportant; often, too much detail in the background is definitely undesirable. And the simplest way to subordinate the background to the face in a close-up is to use a long-focus lens which has less depth of field, and accordingly throws the background out of focus, leaving it often only a soft blur.

The professional's standard lens is the 50mm. objective. Therefore he shoots most of his close-ups with the 75mm. (three-inch) or with a 4-inch lens. In 16mm., the standard lens is a 25mm. or 1-inch lens. If you have a telephoto available, shoot your close-ups with it, especially if it is a 2-inch or 3-inch objective. In 8mm., where a 12.5mm. (½-inch) lens is standard, use a 1-inch or 1½-inch (35mm.) tele-lens. At all times, you'll find the perspective in such shots improved; and on interiors,

where you'll be working the lens at full aperture, you'll find the softened background an advantage. Working outdoors, where the brighter light requires a smaller aperture, this asset disappears, but you can bring it at least partially back by using a heavy neutral-density filter to permit using a larger stop.

There's another aspect to camera-angles, too. Ordinarily, the most satisfactory height for your camera's lens is one pretty close to a normal eye-level; this gives a normal perspective on the scene being filmed. But sometimes you can go above or below this to advantage. For example, if you have a tall, thin subject, you can often minimize the effect of height by shooting from a camera-position just slightly higher than normal. Such an angle tends, by the way, to make a girl appear petite on the screen. And conversely, if you have a slightly short subject, you can often make him or her appear taller by shooting just slightly upward. This latter, though, calls for guarded use. If your subject's face is the least bit inclined to fullness, such an angle will make the face appear undesirably round; and what it will do to a lantern jaw can be imagined!

Where there are two people in a scene together, and you want to equalize a disparity in height, you can, as they say in the studios, "cheat" a bit. For example, suppose you have a tall man and a short girl, and want to show them together without giving too much of a Mutt and Jeff impression. In a two-shot you can quite easily have the shorter person placed several inches—even a foot—closer to the camera than the taller one. Since the camera's vision is one-eyed, this can do a surprising lot to equalize their heights before the trick becomes apparent. Of course, in apparently looking at each other, they, too, will have to "cheat," looking actually past each other, instead of directly at each other!

For most closer shots, there's another trick. You don't show their feet—so you can have the taller person stand there shoeless, while the short one stands, if need be, on a low platform or footstool. You'd be surprised how many professional leading men there are who have had to play their love-scenes standing on such "lifts" to make them seem somewhere nearly of masculine height while playing with a leading woman who in reality towers inches over them!

Some of these angles have an important psychological effect, too. Looking up at a person makes him seem bigger, more dominant; looking down at him makes him seem not only smaller, but definitely less commanding—the underdog, so to speak. In the same way, if you want to show an object—say the Empire State building—as an impressive creation, shoot up at it. If you want to make it relatively insignificant, shoot down at it.

Similarly, the closer the camera gets to any moving object, the faster it seems to move. In a long-shot, even the fastest-

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moving streamliner seems to be crawling; in a close-up, even a relatively slow-moving object seems moving fast, simply because more movement is apparent on the screen. And perhaps the most striking of all ways to convey movement is to pick a low camera-angle, and then have the movement, whether of a person or object, approaching the camera either diagonally or straight on. In such a shot, the movement across the screen is fast, and at the same time the moving subject visibly increases in size, seeming almost to explode off the screen. The movement is so dramatically conveyed it has an almost physical impact on the audience.

Yes, you can put camera-angles to work for you, whether they're the simple long-shot-medium-shot-close-up sequence, or the trickier and more intricate angle-shots usually associated with the phrase. The chief thing to remember is that the lens of the camera represents the eye of the audience—and in controlling the angle at which the lens sees a scene or action, you're controlling the way the audience will see it, and the literal and mental impression that scene will make upon the audience. But remember, there's got to be a good, logical reason for every camera-angle—it must show the audience something more clearly than it could be seen from any other camera-viewpoint. This is doubly the case with odd and unusual camera-angles, for if it doesn't show things more graphically, there's no real reason for the shot. And in the case of "arty" slantwise angles, remember that if the angle doesn't give your audience a better or more forceful view of things, it isn't adding anything to your picture except an impression that your camera wasn't on the level! **END.**

Scenario

(Continued from Page 279)

Scene 17. Close-up of clock—6:30.

Scene 18. Long-shot—inside front door. Mother opens door. John enters, corsage in hand. She welcomes him and speaks.

TITLE:

"EDITH WILL BE READY IN A MINUTE"

Scene 19. Medium long-shot—John seats himself on living-room couch, corsage still in his hands. He looks at the flowers.

Scene 20. Close-up of corsage.

Scene 21. Medium-shot—Edith is manicuring her nails. She looks down with a horrified expression.

Scene 22. Close-up—Edith's hand moves down her leg—yes, there's a run in her stocking!

Scene 23. Close-up of clock—7:30.

Scene 24. Close-up of John's foot, tapping nervously.

Scene 25. Close-up of Edith, finishing her manicure.

Scene 26. Long-shot—John pulls tickets out of his pocket, looks at them, then tears them up and throws the pieces away.

Scene 27. Close-up of clock—8:30.

Scene 28. Long-shot—Edith enters. John rises to greet her. She speaks.

TITLE:

"I'M READY!"

Scene 29. Long-shot—same as Scene 28. John hands her the corsage.

Scene 30. Close-up of corsage, badly wilted.

Scene 31. Long-shot—same as Scene 29. Edith looks at the wilted flowers, and tosses them disgustedly on the table. John and Edith exit.

Scene 32. Two-shot—John and Edith in car. Night-effect. Car rocks as though it were moving. Edith speaks.

TITLE:

"NO DINNER—I'M DIETING"

Scene 33. Long-shot — drive-in stand, night.

Scene 34. Medium-shot — from outside car. A "car-hop" is at one side. John leans out and holds out hand, one finger up. He speaks.

TITLE:

"ONE HAMBURGER—WITHOUT"

Scenes 35-40. Double-exposure — night shots of theatre-signs with close-up of Edith shaking her head.

Scene 41. Long-shot—night, of sign of swanky and expensive night-club. (I used Earl Carroll's celebrated theatre-night club for this.)

Scene 42. (May be double-exposed on Scene 41 if desired.) Close-up of Edith, nodding her head in high approval.

Scene 43. Two-shot inside car, night-effect—John pulls out pocket-book and opens it.

Scene 44. Close-up, pocket-book—There are only two dollars in it.

Scene 45. Same as Scene 43. — John shakes head. Obviously, he can't afford the ritzy night-spot.

Scene 46. Close-shot of wheels of car coming to a stop.

Scene 47. Close-up—John puts a stick into gas-tank. It's empty!

Scene 48. Close-up, night-effect—John's feet and legs walk past camera to right.

Scene 49. Close-up—John pours a can of gasoline into tank of car.

Scene 50. Close-up of clock—12:30.

Scene 51. Medium-long-shot, night — John holds car-door open and Edith gets out. They walk toward and past camera.

Scene 52. Two-shot — John and Edith standing at door. Edith's lips say "good night." John tries to kiss her. She slaps his face and quickly goes in door.

Scene 53. Close-up of John—He holds up his hand and speaks.

TITLE:

"NEVER AGAIN!"

Scene 54. Same as Scene 53—John, hand upraised, is still speaking. **FADE OUT.**

TITLE:

THE END

Offices of J. H. Dallmeyer, Ltd., the British lens-makers, have been moved to 124 Rickmansworth Road, Watford, Hertfordshire.

Home Movie Previews

(Continued from Page 283)

have found the most effective angle from which to shoot a parade is such that it comes diagonally into the picture, moving from left to right. Ward has done this. The only improvement in this respect would be to suggest that wherever it is at all possible, the ideal angle from which to photograph a parade is from a second-story window or balcony, shooting down on the parade from a point at which the marchers enter the picture at the left and then make a turn when directly in front of the lens, thus giving a variety of angles on each float with a minimum of camera-movement. This, however, is rather difficult for any individual in filming an event like Pasadena's Rose Parade, which may be attended by a crowd numbering close to a million spectators.

Ward's lighting and exposure are uniformly good. His follow-shots of such characteristic (and generally photogenic!) features of the parade as the many drum majorettes, could be considerably improved, however. Especially as the subject comes closer to the lens, he appears to overlook the factor of finder parallax, and as a result the figure is not properly centered. In addition, at times he appears to have some difficulty in deciding whether or not to follow such a subject. Some of the angle-shots on the bands are commendable, though they should have been varied, and cut shorter for best effect.

Slightly closer cutting would help the picture quite a bit. This is especially noticeable in some shots of misbehaving horses, and in general in shots of mounted paraders when they come so close to the lens that the screen is filled with the legs of their mounts. The continuity is satisfactory for a film of this type.

In so far as describing the highlights of the parade—the various prize-winning floats, etc.—the titling is adequate. It is unfortunate, however, that black-and-white titles were used in a Kodachrome picture. Also, in the double-exposed opening title, the way the camera pans around the background—a Rose Parade program—is most unfortunate, as this movement in the background distracts attention from the message of the title-wording. The same background, without movement, would be much more effective.

Double "Take"

Britain's Photographic Trade Bulletin tells of an unarmed R.A.F. pilot who captured 60 Italians—with a miniature camera. Taking a tip from Hollywood gangster movies, he used the minicam, concealed in his jacket pocket, to simulate a pistol, to persuade the enemy, found in a cave near Tobruk, to surrender. They did.

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When the Government wanted to show taxpayers how their money was spent on T. V. A., Charles Krutch went to work with his camera. His fine photographic survey explained T. V. A. so well to John Q. Public that the Museum of Modern Art hung Krutch's pictures as a work of art.



Other Features in July Issue

- "LADY WRESTLERS ARE FUN TO PHOTOGRAPH"
- "PHOTO CARTOONIST FLAYS NAZIS"
- "THE FILMING OF CITIZEN KANE"
- "BRYANT PARK, N. Y."—a photo essay
- "HOW AMATEURS CAN TAKE X-RAY PHOTOS"

and many other articles on the technique of still and motion photography.

WAR BIRDS A MONTH" By Stewart Love

Good picture stories on warplanes are scarce as hen's teeth, U.S. CAMERA for July presents a corker by Stewart Love. Newsweek's dramatic pictures of the Buffalo, N. Y., Curtis airplane and the great photography—and a great photo-news feature for the American. (P. S. And a great lesson in photo-news reporting!)

KERLEE'S "Pictures With a Purpose"

Packaged pages by Charles Kerlee working problems faced by everyone who makes his camera pay. Kerlee explores his pictures and describes its creation so that the box-brownie fan or the advanced photographer will find this article of educational value. Reprinted from Kerlee's current photographic best seller, "Pictures With a Purpose," published by Cameracraft Publishing Co.



JAMES KEEN American Ace

James Keen was practically born with a camera in his hands. One secret of his success is to wait until the other photographers have gone—then Keen gets the exclusive he wants. Newsmen still talk about Keen's "Madonna of the Flood." Read his life story and the way he makes prize-winning pictures in U. S. CAMERA for July.



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Tripods and Panning

(Continued from Page 278)

Speaking generally, I think it is pretty generally accepted that it's best to pan from left to right whenever possible, and in making vertical pans (or tilts) to do it in an upward direction. But the action photographed determines this; sometimes you've simply got to do it the opposite way. But try always (with perhaps the single exception of upward pans on waterfalls) to pan *with*, rather than *against* movement in your subject. And never allow yourself to pan indecisively back and forth, up, down and around a scene!

There's another little factor which often causes trouble in home-movie panning. This is grasping the pan-handle too tightly. In driving a car or flying an airplane we're taught to avoid this death-grip on the wheel, but instead to hold it loosely but firmly, with relaxed muscles and nerves. If we use the death-grip on the camera's pan-handle, we find we lose the ability to control things precisely in exactly the same way.

Making "follow-shots" of fast-moving action is another stumbling-block to many an amateur. Yet it is surprisingly easy once you've learned the trick. It's just a matter of letting the camera move freely and smoothly, and keeping the subject accurately centered in the finder.

A pair of engraved cross-lines on the finder—a horizontal one and a vertical one, intersecting at the exact center of the field—are a big help in this. If you simply keep your moving subject accurately centered where those two lines meet, you'll find your follow-shot will be smooth on the screen. But do it smoothly: don't change either the positioning of your subject in the finder, or the rate at which you pan, or you'll

find the subject apparently surging backward and forward in your shot on the screen.

There is some question among the most expert users of substandard cameras as to whether in making fast follow-shots you get the best results using the camera on a tripod, or holding it in your hand. I've seen excellent results put on the screen by both methods, so I'd be inclined to say it depends on which each individual finds personally preferable.

There are times, I'll admit, when the use of a conventional tripod may be inconvenient, or even physically impractical. In these rather rare instances, there are two surprisingly useful substitutes. First and most satisfactory of them is the unipod. This is, as its name hints, a one-legged tripod. The best of them, when folded, look much like a neat walking-stick; but when extended they raise the camera to even a tall man's eye-level. Naturally, they can't be as steady as a tripod, but in an emergency they're surprisingly adequate. The best way to use a unipod is to spread your own legs rather wide and make them take the place of the other two tripod-legs, meanwhile bearing down rather heavily on the unipod, especially if it is being used on grass or earth or some similar surface into which its pointed toe can dig for a firm hold.

The second substitute is one I'd recommend only for an absolute emergency, when no other camera-platform is available. It consists simply of a metal block, fitted at one end with a screw which fits the camera's tripod-socket, and at the other end attached to a length of sturdy chain. Screw the block into the camera, and drop the end of the chain to the ground. Then step on the loose end of the chain with your

foot, and bear upward on the camera, to keep the chain taut. It's really surprising to what an extent this will steady a hand-held shot.

In general, use your tripod intelligently, and it will repay you many-fold with better pictures—steadier ones, with smoother and more pleasing pans, which will give your work a more professionally finished appearance, and make them more pleasing to your audience. **END.**

Mountain

(Continued from Page 265)

versed, filming scenes apparently played in the morning hours!

Another advantage of the use of arc illumination for this key source-lighting was the fact that by means of suitable filters, the color of the arc beams could be controlled to produce any desired effect. Used with the straw-colored "Y-1" gelatins commonly used in Technicolor cinematography, the beams of these spotlights are a perfect match for normal daylight. With a slightly heavier warm-toned filter, they can be matched to actual sunlight.

The rest of the foreground lighting was produced with the usual incandescent units, naturally making considerably increased use of "sky pans" suspended directly over the set.

The general balance of the foreground lighting tends to relatively high contrast, to aid in putting over the illusion of depth.

The background, on the other hand, is best lit rather softly. In addition I frequently introduced a slight haze from smoke-pots directly in front of the backings, to convey an impression of the inevitable visual haze which screens the distance in real locations of this nature.

In this way, with the foreground cross-lit and with accentuated contrast, and the background flat-lit and veiled by artificial haze, a surprisingly convincing effect can be produced.

The backings themselves are important. I had the clouds fogged in in such a way that when the backing was lit from the front, a convincing day-effect was obtained, while illuminated from the back, a considerable range of night-effects, from sunsets to highly pictorial moonlit effects were possible.

This use of backings, by the way, solves another of the problems faced otherwise by cinematographers working on bona-fide exterior locations. There are of course some parts of the world—such as the region around Mexico City—where pictorial clouds are the rule virtually every day in the year. But in most places, clouds are an exceedingly irregular exception: you may go out one day and begin a sequence with a background of superbly pictorial clouds, while in continuing the same sequence the next day—or even the same afternoon—you may find the clouds have vanished. This naturally leaves the cinematographer in a quandary, whether to filter his scenes to take advantage of the clouds when

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they are available—and run the risk of having intercut scenes which show a cloudless sky—or to go to the opposite extreme of striving to subdue the clouds, only to find them unexpectedly available throughout the entire scheduled shooting period. Whichever you do is likely to be wrong. But when you film the scenes on the stage, and have your clouds made to order on a backing, you can take full advantage of the pictorial enhancement of clouds.

In the same way, the inevitable delays caused by waiting for the right weather on locations is naturally eliminated when, working on the stage, you have your weather and lighting conditions made to order.

This is noticeable especially in some of the rain sequences we made for "Sergeant York." We can produce thoroughly convincing rain effects either in or out of the studio now-days. But if we attempt such scenes on any large scale outdoors, there is always likely to be the anachronism of showing our actors in a pelting rain while the sun is obviously shining! As far as foreground action is concerned, this can be minimized by the generous use of overhead canvas scrims; but in extreme long-shots, such as those required in "Sergeant York," it is usually impractical to scrim off the background, so the sunlit rain repeats itself in the distance, even if it is sudued in the foreground.

Working on the stage, this of course does not hold true, since all of the lighting is controllable. Furthermore, by controlling the illumination on the backing a wide range of stormy day or night cloud-effects can be added to the scene, often visibly enhancing its dramatic mood.

Using this technique, while it unquestionably adds to the magnitude of the lighting problems confronting the director of photography, also adds greatly to the control he can exercise over his picture, and accordingly to the photo-dramatic effects he can put on the screen. It demands definitely increased understanding and cooperation between the director of photography and the art-director as regards the design and lighting of these huge stage-built exterior sets, and between the director of photography and the director as regards the staging of action. But granted such cooperation, I am convinced from my own experience that it is another very useful means of reaching our goal of putting better and more convincing pictures on the screen, with greater efficiency. **END.**


Karl Struss

(Continued from Page 268)

winner of the very first Academy Award for cinematography. That was back in 1927, and the picture was "Sunrise," upon which Struss and Rosher collaborated. Twice since he has been in the exclusive circle of Academy Award nominees, and this year, judged at least by the rushes of "Aloma"—his first in

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Technicolor, by the way—he bids fair to be strongly in the running for the coveted "Oscar" yet again.

Struss is one cinematographer whose work has never become typed. With the possible exception of westerns, every conceivable type of feature production has flowed through his camera. He has gone from DeMillian spectacle to out-and-out horror melodramas, followed, perhaps by a Marx brothers' comedy, to say nothing of the task which kept him busy most of last year, bringing Chaplin's "The Great Dictator" to the screen. And for the many years that Mae West was a name to conjure with at the box-office, she showed her professional

wisdom by insisting that she be filmed always through the medium of Struss' softly sparkling high-key cinematography.

Right now, he is enthusiastic about color. What is more, it and its sponsors like him; he is one of the very few "production" cinematographers qualified, in the opinion of Technicolor's extremely conservative executives, to take complete and unaided charge of filming a Technicolor production.

Speaking about color, Struss makes light of the supposed technical difficulties of the process. To him, they're offset by many advantages. "For example," he points out, "take the matter of mak-

ing matte-shots. In black-and-white we go to a lot of trouble matting out the unwanted portions of the scene, so that the matte-painting can be double-exposed in later. In Technicolor, we just shoot the scene 'as is,' for Technicolor's printing matrices are made on the optical printer anyway, and printing in the desired matte-painting is a simple part of what is a routine operation to them.

"Lighting in Technicolor can be done with almost the same freedom as in black-and-white, though in a slightly higher key. In some ways, we've an even wider range of tools and effects in color lighting than in monochrome: we have the tremendous range of lamps from the big 170-Amp. arc spotlights down to the little Mazda 'baby spots.' And we can play our lightings for color as well as for illumination-contrast. Using the arcs with the straw-colored 'Y-1' gelatins on the high-intensity spotlights, and the Inkies with C-P globes and appropriate daylight-blue filters, we have light of a perfect daylight white. Take the filters off the high-intensity arcs, and we have a steely-blue light that is excellent for moonlight effects. Take the filters off the Inkies, and we have a warm-toned light that is ideal for lamplight and similar effects. Put other filters on any of these lamps, and you have a new projected-color effect. The possibilities are endless.

"As a matter of fact, you can learn things in color—especially as regards filtering your light-sources and using modern arcs—that should stand you in good stead in black-and-white. I know this color picture has given me many ideas I want to try out in black-and-white as soon as I have an opportunity to experiment.

"And there's a point I'd like to bring out strongly. Today, more than ever be-

fore, the industry needs photographic experimentation. We have new tools in our hands that open the way to all sorts of valuable new techniques. Coated lenses — super-speed films — improved light-sources—the techniques we can bring over from color to black-and-white: properly combined, they can show us many new effects, and new and more efficient methods. But it demands practical experimentation! And under today's production conditions, that calls for increased cooperation between the studios and their cinematographers.

"In the past, we have all of us carried on more or less extensive programs of individual experimenting. Today it has become too costly for an individual to do in 35mm., though many of us still do it in 16mm., in so far, at least, as we can be sure of getting parallel results in standard and substandard film.

"But for the final, clinching proofs, we ought to work under actual studio conditions. That is difficult for an individual today. If he is not under contract to a studio, it is difficult to get the necessary cooperation. If he is under contract, his employers usually regard him as too valuable an asset to waste time in that manner, but keep him going from one production to the next with little, if any time between pictures for experimenting.

"It seems to me that now of all times, the industry would benefit if some centralized plan for phototechnical experimentation could be gotten under way. It might be within some studio organization itself; it might be cooperatively managed between the producers as a group, and the A.S.C. as a group. But I am sure it would pay the industry at large big dividends in better pictures on the screen, and more efficient and economical methods of getting them."

Summer Sports

(Continued from Page 280)

which the white ball stands out well is preferable.

Don't forget, too, that it's a cinch to make a hole in one—with a camera. Just get a shot of a reasonably good drive, and follow it with an extremely close shot of the ball landing on the green and rolling into the cup. If anyone doubts your word—why, you've got photographic evidence, haven't you?

Tennis is another sport that is best shot from above and behind the players, and using a film that accentuates the tonal contrast between ball and background. If you shoot tennis from the side, you'll either have to go back to such an extreme long-shot angle that the details aren't easily visible, or else you'll have to keep swinging the camera back and forth, producing a most confusing effect on the screen.

In these long-shots, a moderate slow-motion—say 24 or 36 frames per second—is desirable. This will slow the action just enough to make it clearer, without running the film bill too high.

Really close shots of tennis-players aren't too desirable unless you've a subject like Bill Tilden or some other star whose form, revealed in really slow slow-motion, is honestly worth study.

Fishing—now there, at least, your camera is up against it, unless you've got a spectacular fighter like a tuna, swordfish or manta on the hook, and you can count on a bit of aerial work on the part of Mr. Fish. Even then, you can never be sure where—or when—he'll break water. But most of the finny tribe do their fighting pretty well under water, and don't offer very spectacular camera-material. Besides, I've heard some fishermen complain the noise of the camera scared the fish away—! So unless you're a dyed-in-the-wool fisherman, you'd better leave fishing to the fisherman, and save your camera and film for another day's shooting! END.

Football Films 24 Years Old

The nation-wide practice of making 16mm. movies of football games for coaching purposes is commonly supposed to be a recent development. But according to the New York documentary film review, "Film News," they're not so modern. Yale began them in 1916, using the old "safety standard" 28mm. home-movie film until the introduction of 16mm., thereafter switching to the more modern dimensions. Princeton, too, is a pioneer, filming its first game in 1919—beginning appropriately with that season's Princeton-Yale game. Getting back to the present, the sensational "fifth down" episode in last fall's Dartmouth-Cornell game was disclosed via Cornell Coach Snavelly's 16mm. movies, which for once lost a game, instead of winning it, for the movie-making mentor.

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Presented by Minneapolis Brewing Co. Produced by Paul James Thompson.

"Behind the Bale" is as excellent a commercial-educational film as we have screened in a long time. Technically first-rate, it does not shout its commercial message, yet gets it over effectively none the less in telling the little-known but extremely interesting story of the raising of hops. From every viewpoint, "Behind the Bale" can be heartily recommended for almost any kind of showings.

From the technical and production standpoints, "Behind the Bale" has a smoothly professional quality not always seen in 16mm. commercial films. The continuity flows along uncommonly well; and in view of the audience opposition a film dealing with one of the main ingredients of beer might arouse in some quarters, the film very cleverly begins with an exposition of the agricultural resources of the Pacific Northwest, particularly the Yakima valley. Sequences of the Government's great irrigation and power projects are shown, followed by others dealing with the fruit and other industries of the region. When at last attention is turned to the hop raising industry centered there, it comes naturally as an interesting exposition of another and little-known industry of that fertile region.

Thereafter the subject is presented in great detail, to an extent which will give most audiences a new respect for the next glass of beer they drink. Some flaws might, however, be pointed out: the exact function of hops in the production of beer is not pointed out. Neither is it made clear until well along in the film's progress what portion of the hop-plant is utilized. The narrator's insistence on the high skill required of workers in every stage of the growing, harvesting and curing of hops is also somewhat overdone.

From the phototechnical standpoint, "Behind the Bale" is excellent. Throughout it shows a highly pleasing pictorial quality which should make the film welcome on its photographic merits alone. Repeatedly there are scenes of spectacular photographic composition. The camera-angles throughout are uncommonly effective, and add greatly to the force of the film.

There are several multiple-exposure and montage sequences which are more than praiseworthy. Regardless of whether they were done in the camera or in an optical printer, they are technically and artistically well handled, and add measurably to the professional air of the film. The visual continuity is smoothly welded together with excellent lap-dissolves, too.

There are a few scenes here and there in which the exposure is not as consistent as might be desired. Some of these

Sixteen millimeter commercial filming has long since outgrown the experimental stage and become a legitimate and highly-specialized field of professional cinematography. The technicians in this field stand definitely apart both from the 16mm. amateur and from their 35mm. professional fellows. But it has been our experience that these men who are so earnestly striving to build a new field of cinematography welcome comments of a professional and technical nature upon their work, and how it can be improved.

To meet this need, this new department of THE AMERICAN CINEMATOGRAPHER is being inaugurated. We see many 16mm. commercial films in the course of our work, and have almost invariably been asked for frank criticism. We propose to give that criticism written expression here. We will welcome opportunities to review and analyze any such films made by our readers.

THE EDITOR.

were obviously made under unfavorable lighting conditions; others seem to have been made under almost ideal conditions, and the unevenness—tending usually to underexposure—may possibly have occurred in the dupe-printing process.

The print viewed was in general quite satisfactory. The color-balance was surprisingly consistent when the intricacies of the Kodachrome process are considered. The contrast was much more nearly normal than is often the case with Kodachrome duplicates. It is unfortunate that no credit is given for the excellent laboratory work.

The sound, credited to Harry A. Zell, is good. Especially in the early sequences, but also at intervals throughout the film, the recording of the narrator's voice could be improved, as it takes on an unpleasantly "tubby" quality. This may conceivably be either the fault of the recording or of the sound processing. The musical score—an organ recording—is generally excellent. However, the film would benefit if in the re-recording the organ had been subordinated to the announcer's voice. In two short sequences, too, the organ seemed a bit ill-chosen to suit the action. In one sequence, a worker is shown in the field with a portable radio; in another, a worker is shown playing a guitar, an instrument which certainly cannot be imitated by any organ. It is unfortunate that this shot could not be replaced by one showing the worker using an accordion, which would, of course, fit better with the organ score.

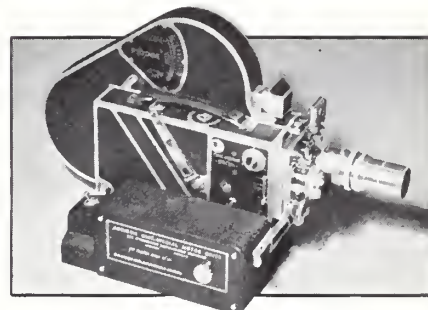
All told, however, "Behind the Bale" is an unusually creditable production.

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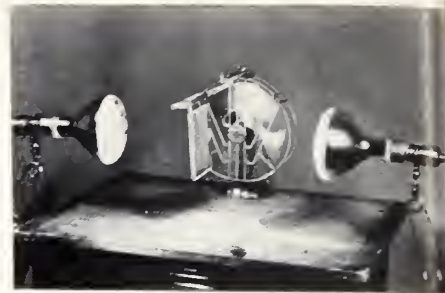
DeJur-Amsco Photo Contest

Over 50 prizes, with a total merchandise worth of \$1153.40, are offered by the DeJur-Amsco Corporation in a nation-wide photographic contest which begins July 1st and closes at midnight September 30th. Prizes include such DeJur products as the well-known DeJur "Versatile" enlarger, DeJur-Amsco "Critic" photoelectric exposure-meters, DeJur superimposed-image range finders, and similar accessories, and such other products as Kalart Master Micro-matic flash-synchronizers, Albert "Royal" tripods, and innumerable accessories, both singly and in combination.

The contest will be open to every photographic enthusiast in the United States. It is stated that there will be nothing to buy in order to enter, and no strings attached.

Studio For Amateurs

Still and motion picture photographers in the Southern California area will be interested in the opening of the Camera Clinic, in Burbank, Calif. Owned and operated by Rey Scott, International Newsreel cinematographer recently returned from the Chinese war zone, the "Camera Clinic" is said to be a fully-equipped studio in miniature, intended primarily to provide photographic facilities and service for the amateur photographer. Equipment is stated to include Arro rifles, floods, reflector-spots and Baby Keg-Lites with an up-to-date selection of backgrounds and interior settings suitable for all photographic and cinematic needs. A complete darkroom equipped with printers, enlargers, dryers, etc., is at the disposal of still photographers.



Infra-Red Lamps Dry Negatives

A new way of drying negatives, applicable in many instances to cine-film as well, is by the use of infra-red heat energy as supplied by the new "sealed silver" heat-lamp put out by the Wabash Photolamp Corp. This lamp has its own built-in reflecting unit in the form of a solid pure silver lining sealed inside the bulb. This permits concentration of the radiant heat-energy exactly where wanted, and eliminates the need for a separate reflector.

Similar infra-red drying installations have for some time been in use in many industries where the penetrating power of the infra-red radiation speeds the drying of paint, etc., remarkably. For drying still-picture negatives, the wet negative is suspended between two of the heat-lamps placed about two feet apart, as shown in the illustration. An electric fan is then placed behind the negative to send a flow of air across the path of the rays on each side of the film. With this set-up, it is stated that the film will be bone dry within 1½ to 2 minutes.

Similar installations, though necessarily involving more lamps, can be utilized for drying cine-film, whether on developing machines or in drum or rack processing installations. This principle should be of particular value in home processing of cine-film, and in laboratories located in regions where humidity is high.

In all, three new Wabash-Birdseye infra-red heat-lamps are announced. In addition to the sealed-silver type, two clear types for use with standard reflectors are available. All are guaranteed for 6,000 hours average life. Bulletin No. 121-B describing the use of infra-red heat lamps generally, can be had by writing the Wabash Photolamp Corp., Brooklyn, N. Y.

In either cinematography or still photography the best course for the beginner is to start with a simple, inexpensive camera and master that. Then he can buy a better, more advanced outfit later when he has gotten the "feel" of picture-making.

* * *

G. B. Equipments, Ltd., the British 16mm. sound-film organization, is adding a number of war films to the Gebe-scope 16mm. film library.

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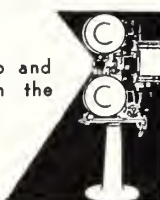
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Telephoto Lenses

(Continued from Page 282)

amazingly inadequate in any except the flattest of front-lights (that is, with the sun very directly behind the camera.) Make or buy yourself an additional sunshade that you can use in addition to whatever shading the lens-maker may have supplied. Have it just as small and as deep as you possibly can without having it cut into your picture. On the 12-inch and longer telephotos I use professionally in aerial cinematography, I use a lens-shade the same size as the mount of the lens—and no less than 4 inches deep; and whenever I can, I rig up additional shading besides! So in using telephotos on 16mm. and 8mm., remember, the more powerful your telephoto, the narrower and deeper your sunshade ought to be.

If you give your lens adequate sunshading, you'll eliminate a big part of the flare that flattens out your telephoto shots right there. But in most cases, you'll need a bit more to snap up your shot, especially in black-and-white. So my next suggestion is to use one of the contrast-increasing filters — an orange one, like the Wratten "G," or a red one like the Wratten "23-A," "25-A" or "29-F"—wherever your exposure-conditions (and of course your subject) permit.

And—remember to give your filter just as good a sunshade as you would your lens! There's no point at all in using a deep sunshade if you're going to stick a glass filter out in front of it with little or no protection; the light will just hit that glass surface and bounce around, creating flare just exactly as though you'd no sunshade at all. So make it a point to put your filters close to the lens—the glass part of it—deep within your sunshade.

Next, you'll need every bit of added contrast you can get, so try wherever possible to shoot your telephoto shots under conditions that permit stopping down to a really small aperture. Stopping down, you know, tends to increase optical contrast, anyway.

And when you can, pick your lightings for contrast, too. Even in Kodachrome or Technicolor you'll do better in telephoto shots if instead of the conventional flat lighting you use a cross-lighting, with the sun at one side or the other of the camera. In black-and-white, always use a cross-light, or course being sure your sunshade protects lens and filters. Keep your exposure correct; if you have to err, let it be on the side of underexposure, which increases contrast, rather than overexposure, which flattens things out.

Finally, be doubly sure that your finder is accurately matched to the field your tele-lens is photographing. With a short-focus lens you can in a pinch get by with a finder that is a trifle inaccurate; but with a tele-lens, your eye looking through the finder and the camera's eye shooting through the lens have simply got to see the same field—or the

camera will miss its shot. And with the longer-focus lenses, an error of a fraction of an inch at the camera may mean a difference of several feet in framing a subject 100 yards or so away! Make sure your finder is perfectly matched to the lens, and that it is positioned as close to the lens as possible.

Remember, too, that there are more uses for a telephoto than just giving you a closer view of a distant object. Often, in an otherwise normal shot, you may want to compress your perspective, bringing foreground and background apparently closer together. A telephoto lens will do that. On the other hand, in close shots you may sometimes want to subordinate the background to your subject: used close enough to make the close-up shots desired, and at a relatively wide aperture, the telephoto's proportionately lessened depth of field will do that, too. As a matter of fact, most professional close-ups are shot with longer-focus lenses—usually 3-inch or 4-inch objectives—that give a mild telephoto effect when compared with the 2-inch lenses normally used.

To sum things up, if you use your telephoto with a bit of common-sense, you'll find that successful telephoto-shots can become the rule, rather than the exception. Just remember these basic rules: use a good, solid tripod; have your lens deeply sunshaded; in black-and-white, use an orange or red filter wherever you can; always make telephoto shots at the smallest possible aperture; pick your lightings for contrast—preferably a good, snappy cross-light; and finally, be sure lens and finder are accurately matched. And the supposed mystery of telephoto lens work will vanish! **END.**

16mm. Western

(Continued from Page 281)

have it, seething over this sensation, the Pinkerton man arrives and proves to be a dead ringer for the card-and-gun artist, so he is promptly slapped into the G. G. Bastille. While he languishes there, his assistant (a comic of the Fred Kelsey type) gets chummy with the Sheriff's deputy and, after a bibulous evening in the local beer-hall, (big "production value" here!) staggers back to the Sheriff's office to sleep it off.

There he discovers his chief behind the bars, and frees him. After spending a rather uncomfortable night hiding in the woods, the two detectives meet up with an old prospector, who gives them a clue that leads them to the real bandit's hide-out. The detective rousts the bandit from his hiding-place, and in the ensuing gun-battle kills him, thusly both vindicating himself and saving the faces of the Sheriff and his deputy. **FADE OUT** and "End" title, accompanied by sincere sighs of relief from Fallberg and Caloniun!

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easy as it sounds. Take the matter of locations, for instance. Up at Kernville, which is about a hundred mountainous miles away from Hollywood, they've got a stock old-time western street which is rented out to professional movie troupes. We talked the owners into letting us use it at times when Gene Autry and Bill Boyd and the rest weren't shooting there. All told, we—and our cast, which was composed entirely of fellow-workers at the mouse factory—made so many trips up there that even now if we don't keep a close eye on our flivvers, they're likely to start rolling that way by themselves. For other scenes, we journeyed to such familiar professional locations as Idylwild, Chatsworth, and of course, the old stand-by, Griffith Park.

One time our studio connection stood us in good stead was in the matter of making our interior scenes. Just about that time, Walt was moving from his old plant in Hollywood to his present place in Burbank, and we wangled permission to shoot our interiors in the little stage at the old plant. But we had to build the sets—there were six of them—strictly ourselves, and provide our own Photo-flood lighting equipment for illumination. At that, we (this is Fallberg speaking about cameraman Calonus!) did a better job of lighting on our interiors than on some of the exterior shots, for we were too raw and green to know anything about using reflectors—and you can imagine the shadow-

trouble we had with everyone wearing wide-brimmed cowboy hats!

There were times when we thought we had bitten off more than we could chew. For example, we needed a shot of an old-time train in action, some closer shots of our detective and his henchman boarding and leaving it, and interior shots inside the cars. Stock shots were ruled out. We made up our collective mind that if we couldn't personally go out and shoot a scene, we just wouldn't have it in the picture.

Well, in the case of the train, we played in double-headed luck. Paramount was sending a genuine old-time train around the country as a publicity stunt to advertise "Union Pacific" (now you can see how long we worked on our epic!) so we found out when it would be leaving. We piled into the car and raced out to San Bernardino, and bagged the necessary action shots.

We were just as lucky in the closer shots. One of our fellow-Disneyites, Ward Kimball, had been bitten by the railroad bug and acquired himself a real steam-spouting old-time engine, complete with car to match, which he keeps on a track in his Alhambra orange-grove. We kidded Ward into letting us use his train for our close shots and interiors—and added a lot of "production value" to the picture. That he made us help him lay track on some visits didn't lessen our appreciation of his railroad, either!

But for the most part, we planned the picture within the limitations our standing as novices and amateurs imposed on us. Also within the limits of our spare cash—!

Actually, there were no problems so great as to be insurmountable. Building interior sets was largely a matter of rounding up some old lumber (thank heaven for friends who were building houses!), constructing the necessary walls and "flats," papering them with wallpaper of the 1879 period, rummaging around junk-shops for props of the right character and dressing our sets. Getting the wallpaper was one of the worst problems; everything in that line has gone incredibly modern since 1879, and the way some of the wallpaper merchants looked at us when we asked for some garish old-time patterns was enough to discourage any weak-willed individuals!

What might have been another problem turned out to be unexpectedly easy. We needed an 1879 telegraph blank for an insert showing the message that put the Pinkerton men on the case. We thought we'd have to fake one until someone thought of the idea of asking Western Union: and believe it or not, the telegraph company came through with an authentic 1879 blank!

On our exterior locations we sometimes had a bit of trouble finding just the right combination of background, availability of horses, and permission to fire off blank cartridges for our shooting scenes. In a case like that, we just held off shooting until we found

what we wanted. And that held true for most everything; while we weren't so over-ambitious as to aim for something way over our heads, there was still a certain basic quality we wanted to get into the picture simply as a matter of pride in doing everything the best way we could. Speaking broadly, we don't think we fell down too badly.

As for our actors, we were lucky there, too. Anyone who is sufficiently looney to work successfully in an animated cartoon studio is likely to be willing to try anything once—even acting! So we were able to recruit ourselves a cast of amateur actors from among our daily associates, paying them only an occasional free coke now and then when the going got too tough and hot.

That is, we got volunteers for all the parts except the dual role of the detective and bad man. Maybe some of the prospective heroes peeked at the script and saw that our villain had to do a bunch of falls from horses and so on, and finally do a brodie off a cliff; anyway, they were awfully polite about turning down the part to "someone who could do it better!" Finally (this is Calonus talking) it became very evident that if we wanted the part filled, one of us would have to do it himself. As director-cameraman, I couldn't manage it, so—by dint of superhuman persuasion—Fallberg, whose official duties as producer and film-editor left him some spare time, was coerced into donning grease-paint and a walrus moustache and filling the role. He did a bang-up job of both parts . . . Bang down, you mean (this from Fallberg—still rubbing liniment on those bruises earned doing the falls—!)

The picture itself was shot with a Bell & Howell 70-D Filmo with the simplest of universal-focus lenses, and an Eastman Cine-Kodak Special was borrowed for a few dissolves and for the main, credit and end titles, which were filmed in Kodachrome. Most of the dissolves, however, were done as dupes, printed by Pacific Laboratories. Cutting these scenes in with the originals naturally threw the emulsion in the dissolved scenes on the wrong side of the film, throwing things in and out of focus in the screen unless you watch the projection like a hawk; but with 1750 feet of picture, we couldn't afford to have the whole thing duped to make this come out even.

We completed the production by working out a synchronized musical score on phonograph records, some of them specially recorded. All told, we feel we've turned out an effort which, even if it isn't a professional job, is at least something of which we don't have to be too ashamed. And we had a lot of fun doing it—and learned a lot, too. What more could any group of amateurs ask than that? END.

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Movie Clubs

(Continued from Page 285)

Hollywood and twenty of the members enjoyed demonstrations of all the latest movie equipment and a special talk on "Making Prize-winning Movies" by Editor William Stull, A.S.C., of THE AMERICAN CINEMATOGRAPHER, who screened several of the magazine's prize-winning films.

At the May 21st meeting, A. B. Shore, of Max Factor's make-up studio, gave a demonstration of character make-up. Hugh Heacock, who plays the role of Father Serra in the Mission film now in production by members Val Pope and Harold Neil, was made up to represent three different stages in the character's life. Following the demonstration, Kodachrome pictures of Florida loaned to the Club by Ralph Hommel of Ohio were shown.

In conjunction with the Junior Chamber of Commerce, the Club sponsored a contest for the best movies made of Long Beach's recent bathing beauty parade. Winners in the 8mm. class were President Mildred J. Caldwell, first; Dr. Franz Buerger, second; and Harry E. Ward, Jr., third. In the 16mm. classification the winners were Clarence Aldrich, first; Albert Wright, second; and Miss Florrie Wright, third.

RAYMOND FOSHOLDT, Secretary.

Still-Men Tri-City Guests

The May meeting of the Tri-City Cinema Club (Davenport, Ia., Rock Island and Moline, Ill.) was the third annual get-together meeting between the cine group and the six still-camera clubs of the region. Included in the program were the monthly Print Exhibit and Award of the Moline Camera Club; a showing of 35mm. Kodachrome slides by Robert A. Cross, and the showing of three films by Tri-City members. These included "Milking Time in Spenser Square," 300 feet 16mm. black-and-white, by Harold Hainline; "Davenport High School Band in Action," 400 feet, 16mm. color, by Harry Lytle, Dr. James A. Dunn and Dr. Paul A. White; and "Mexico," 200 feet 8mm. color, by Ray P. Schmidt.

DR. ALBERT O. MUELLER President

Joint Meeting of So. Cal. Clubs

The May meeting of the Los Angeles 8mm. Club was devoted to a joint meet-

ing with the various other movie clubs in the Southern California area. Each club provided the outstanding film made by its members during the past year. The program consisted of "Wyoming Sheep's Tails," 400 feet, 16mm., color, by Mrs. Charles L. Zimmerman, and "Las Vegas Shrine Ceremonial," 300 feet, 16mm., color, by President William Hight, as contributions from the Los Angeles Cinema Club; "Father's Time," 400 feet 16mm. black-and-white by Raymond Fosholdt of the Long Beach Cinema Club—an outstanding example of home processing; "Farmer in the Dell," 200 feet 8mm., black-and-white, by Leo Caloia and N. Johnson of the Snicker-Flicker Club of Glendale; "Mammoth Lakes," an outstanding color film by H. L. Carnahan of the La Casa Movie-makers of Alhambra; "Tropical Jamaica," 400 feet 16mm. color, by Carl Anderson of the Southern Cinema Club; "1941 Tournament of Roses," 800 feet 16mm. color cooperatively filmed by the members of the Pasadena Movie Club; and "Diary," 300 feet 8mm. color, by Harold Remier of the Los Angeles 8mm. Club.

BETTY BARNEY, Secretary

Philadelphia Goes Balkan

Greece as it was, the Balkans as they used to be, and Mexico as it is today were portrayed in a color-film shown by Mrs. C. Phoburn Maxwell at the May meeting of the Philadelphia Cinema Club. Mrs. Maxwell accompanied the screening of her films by a witty running commentary. The Club was not only very well entertained, but highly flattered by Mrs. Maxwell's request that they criticize her films unreservedly. However, the films were so excellent that little criticism was possible.

B. N. LEVENE, President.

Parkville Discusses Film Latitude

The April meeting of the Parkville, Md., Amateur Cinema Club highlighted a talk by R. C. Surridge on "Films, their Latitude and Exposure," illustrated by slides and pictures. Member Loewer screened his film on the New York World's Fair. Messrs. Surridge, Davidson and Loewer were appointed as a Technical Committee to analyze members' films when shown during meetings.

G. E. ARO, Secretary

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Ham for L. A. Cinema Club

The feature of the Los Angeles Cinema Club for its April meeting was a contest for a 100-foot reel, to be submitted uncut and unedited. There were a number of films entered in the contest, and the Judges awarded the Grand Prize to Jack Shandler. Shandler's film was in Kodachrome, and featured the internationally known Chef Milani of radio fame, who prepared a ham for baking in an unusual style. From the oven to the dinner table proved an interesting subject to the audience. Following the contest pictures, a 1600-ft. film, in Kodachrome, photographed by George Ring, member of the club, of Hawaii, was shown. This was an excellently-photographed film. The meeting was preceded by dinner at the Chapman Park Hotel.

JACK SHANDLER, Secretary.

San Francisco Announces Contest Rules

Regulations for the 1941 Contest of the Cinema Club of San Francisco are announced in a recent bulletin published by that Club. As they may be of benefit to officers of other clubs, they are republished here. Contest pictures are limited to 400 feet of 16mm., or 200 feet of 8mm., either black-and-white or Kodachrome being eligible. Any member in good standing of the Club may enter the contest, with the exception of those making their living by making or selling motion pictures professionally. In order to have a contest, it is ruled that there must be two or more films entered.

From the contents of the bulletin it appears that during the year there will be five sub-contests, with subjects as follows: A, home and family pictures; B, Nature pictures; C, Fictional and documentary pictures; D, Travel and vacation pictures; and E, Miscellaneous. These sub-contests will be judged by club members. The run-off between the winners of these five sub-contests will be judged by a committee of non-members of the club, preferably representatives of other clubs in the district.

This final judging will be on the following basis: A, Continuity, 20%; 1, Maintenance of interest; 2, Flow of thought; B, Photographic quality, 20%; 1, Exposure; 2, Camera technique; 3, Composition; C, Editing, 20%; 1, Transitions; 2, Tempo. D, Titling: 15%. E, Subject-matter, 15%. F, Lighting, 10%.

The monthly sub-contest winners will receive a leader for their films. The winner of the annual run-off contest will receive possession of the Club's large annual trophy for the ensuing year, and in addition will receive as a permanent award a replica of the camera and tripod that forms the top of the large trophy. Any member who wins the annual trophy three consecutive years, will receive it permanently.

Idea Exchange

(Continued from Page 284)

convenient way to do this to buy one of the small "color-wheel" attachments several manufacturers put out during the early days of home movies; you can usually pick one up for a few cents. Take out the colored gelatin from one of the openings, and in its place put a piece of black cardboard or metal. Leave another opening clear. Then mount your gadget so that it fits close up against the projection-lense, and the clear opening normally hangs in front of the lens. A touch of the finger will swing your "douser," and the opaque black cardboard will cut the projector's light from the screen until you're ready to start with the opening title of your picture.

W. G. LEADBETTER

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The Weston Electrical Instrument Corporation announces the appointment of Edward S. Sievers as the firm's Western Representative, succeeding A.A. Barbera who has represented Weston for many years. Associated with Sievers will be John D. Farneman, also well-known through his association with Weston in the territory, and an experienced staff. Sievers, who has been prominently associated with Weston's activities in Southern California since 1937, will make his headquarters at 567 Subway Terminal Bldg., 417 South Hill Street, Los Angeles.

Here's How

(Continued from Page 286)

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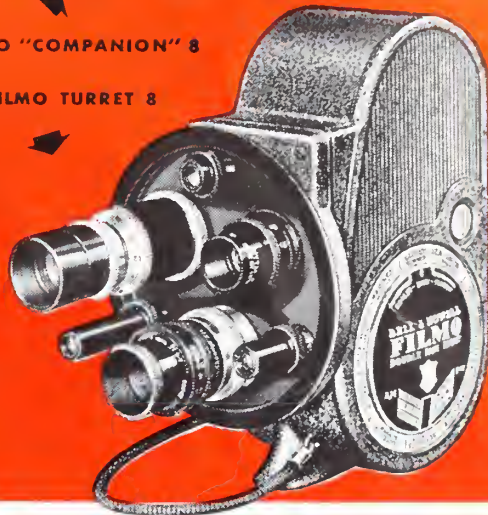


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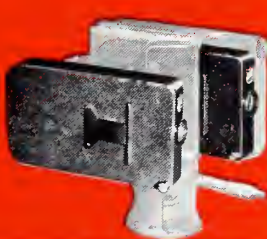


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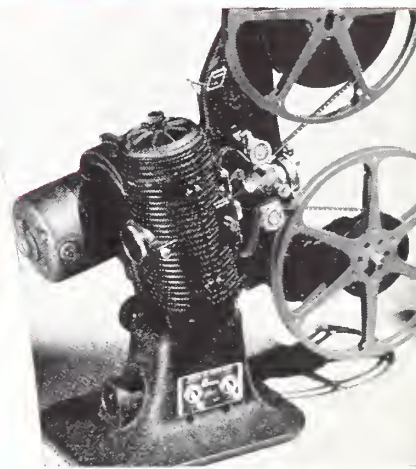
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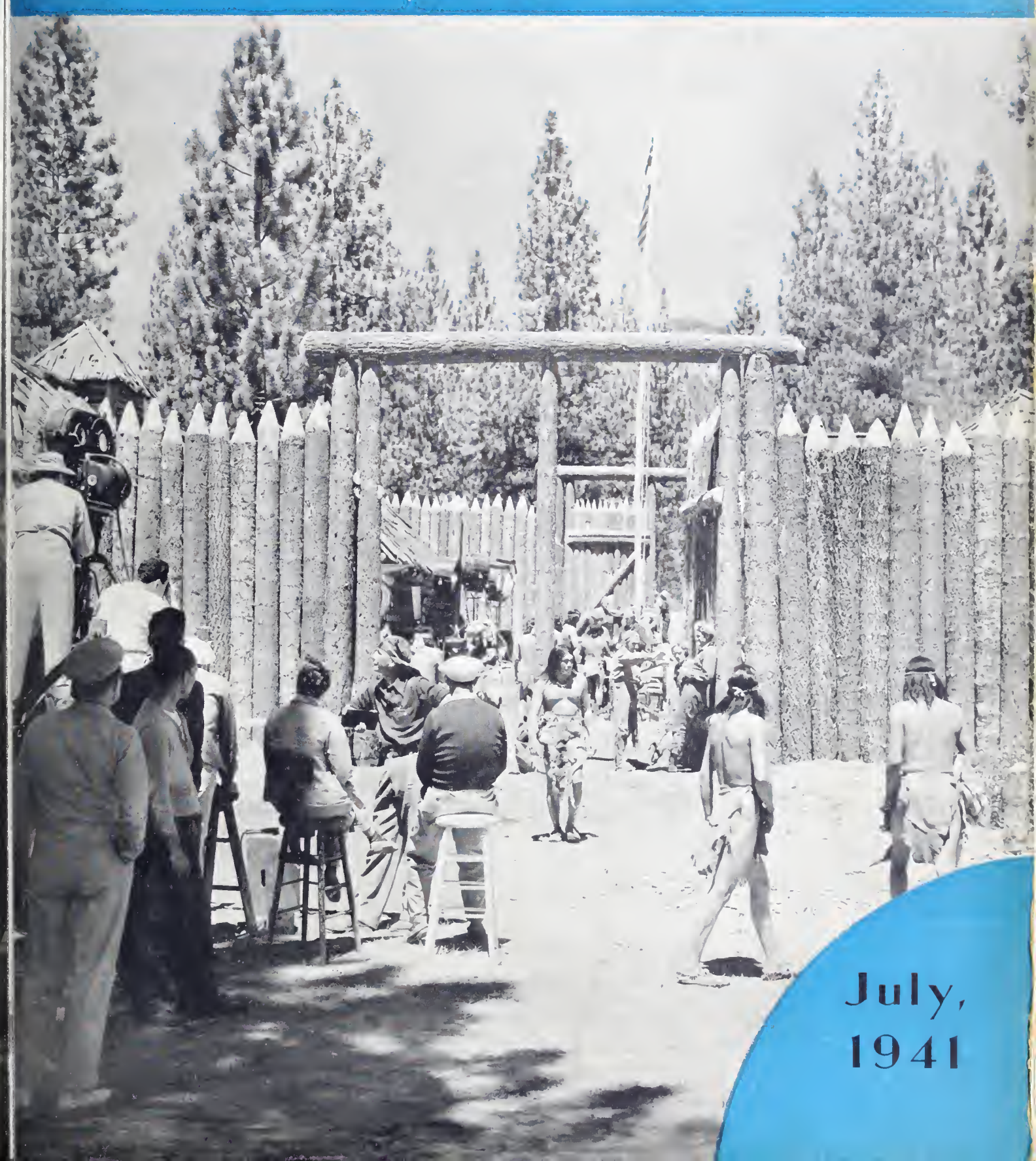
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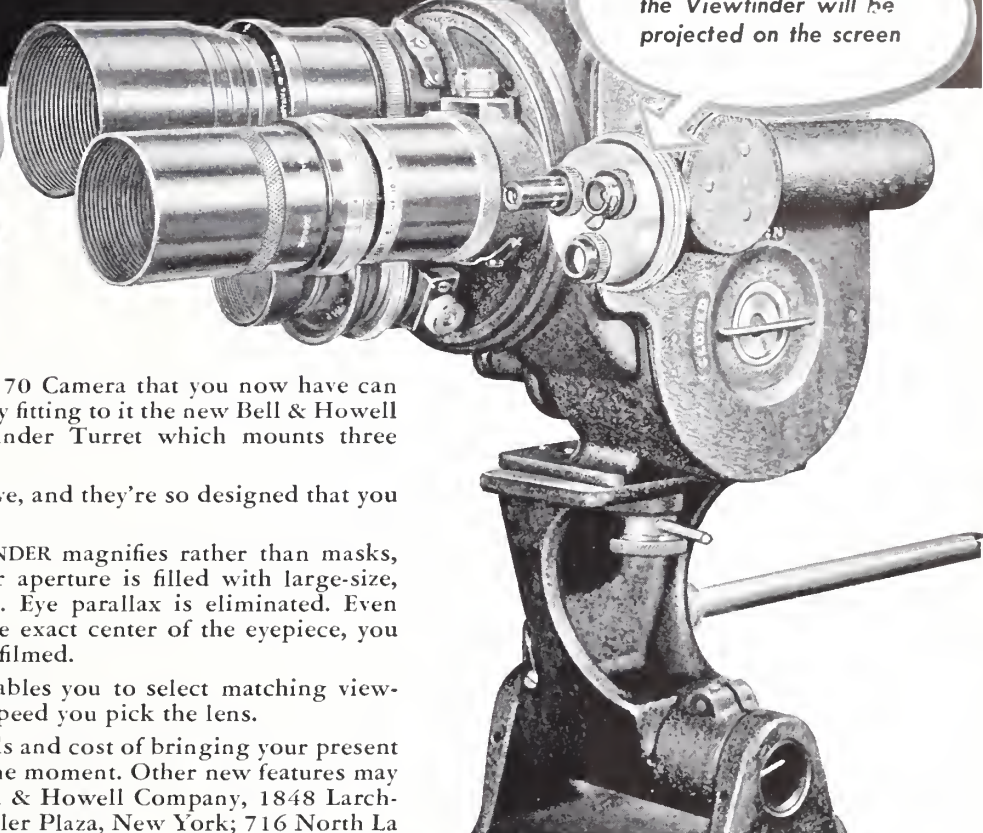
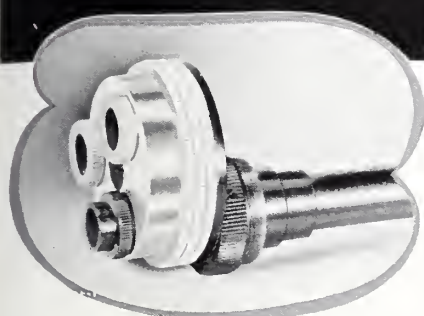
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THE MOTION PICTURE CAMERA MAGAZINE

VOL. 22

JULY, 1941

NO. 7

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The Front Cover

On this month's cover Milton Krasner, A.S.C., is seen making a scene for Universal's "This Woman Is Mine." Note use of "booster" lights inside the stockade. Still by Eddie Jones.

I win a bet from Billie— the Script Girl!



"Cut," says the Director, and then he turns to me.
"How do you like it?"

"I'll buy it," I say.

"Okay, print it."

Then Billie looks up and says, "I've been a script girl for five years and I've never seen anybody shoot into a weak light like that and come out with anything worth printing."

"Want to bet?" I ask her.

"One steak dinner," she says.

"It's a bet."

Next afternoon we see the rushes. Billie gasps. The Director gasps. Even I gasp . . . and everyone wants to know how we ever did it.

"I shot it on Agfa Supreme," I tell them.

And I win the bet with Billie!

• • • • •

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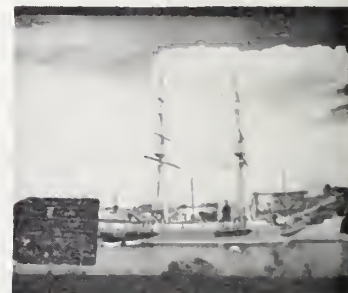
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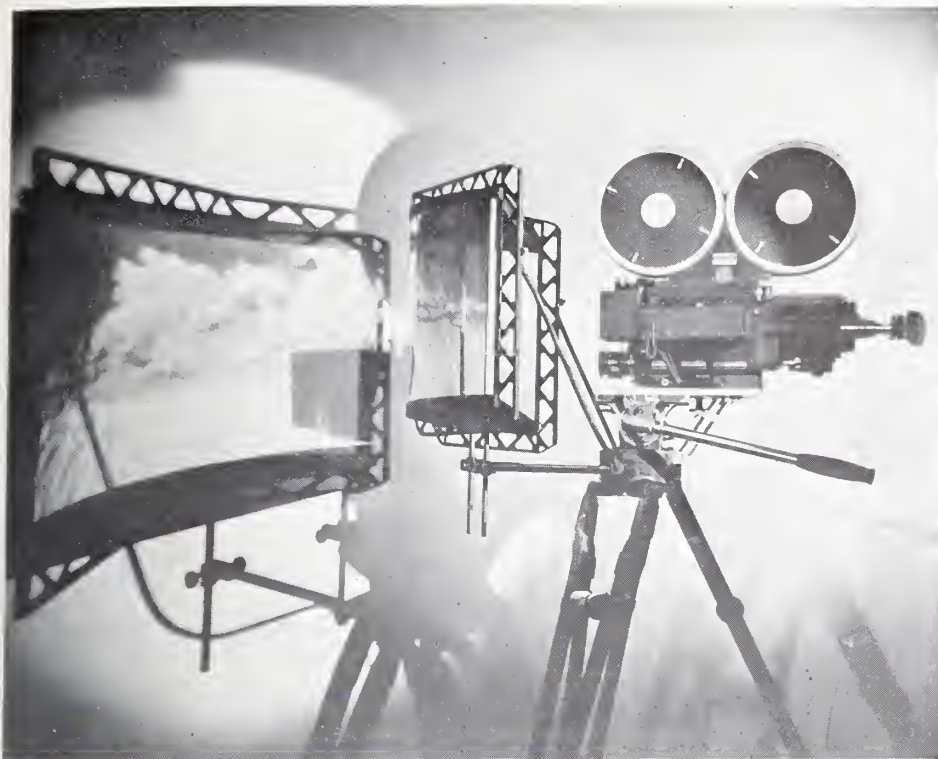


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Frame enlargements from 35mm. tests illustrating use of 20th Century-Fox Cloud Machine. The Cloud Machine itself is shown on the opposite page.



Clouds Made to Order

By CHARLES G. CLARKE, A.S.C.

PROBABLY one of the most uncertain elements of exterior photography is the assurance of obtaining clouds. It is well recognized that a landscape with a cloud-filled sky is far more beautiful and interesting than the same view without them. In some instances motion picture companies have been compelled to wait for long periods on location, at considerable expense, for clouds to put in an appearance. Quite frequently locations are chosen especially because climatic conditions may indicate that pictorial clouds are likely to be on hand. Very often the clouds are not in the right place when the scenes must be photographed, and in a day's work some scenes may have clouds in them and others, in the same sequence, are "bald." After the production is assembled these cloudless scenes are inconsistent, and in many cases are sent to the special-effects department to have clouds duped in. The budget of the general run of pictures does not permit of waiting for clouds nor the expense of having them put in later, so the cinematographer on those productions ventures to the location invoking the blessings of the fates; tenderly stroking a rabbit's foot; assuring those who

will listen of the clean life he has led, or whatever his particular approach to the problem may be. He well knows that he will be obliged to shoot, and that the results will be disappointing. To the Production Office he is a great photographer if he has clouds and an impostor if he is not so fortunate as to be favored with them.

In view of this situation, I have long been pondering what could be done about it. For some years I have been cutting neutral density gelatine filters, which properly placed in the matte-box so as to come over the sky area of the scene to be photographed, resulted in a passable cloud effect. The thought occurred to me that if a filter, used so close to the lens, could produce that effect, a transparency containing the photographic image of real clouds, placed far enough away from the lens so that definition could be carried, would be more satisfactory.

In 1939 experiments were made, the results being so satisfactory that the Camera Department of the Twentieth Century-Fox Studios has since built three complete outfits for producing these synthetic clouds. For some time now this system has been in actual use

on regular production, and many pictures using it have been released, including "Brigham Young," "Hudson's Bay Company," "Romance of the Rio Grande," "The Cowboy and the Blonde," and many others of the "Cisco Kid" series which contain cloud scenes made by this manner.

At first flat glass plates were used which permitted only stationary set-ups, that is, the camera could not be panned. Later a panoramic device was invented, with suitable flexible transparencies, so that panning shots were possible. This later device has almost replaced the stationary equipment, for stationary scenes may be made with the panning equipment just as readily as those scenes where the camera is panned across the plate.

The invention works on the theory that a transparency placed before the sky area of a scene is printed upon the negative by the "bald" sky. In other words, the expanse of sky is a printing light which is modulated by the graduations of the transparency placed between it and the negative material. The whitest portion of the "cloud" is simply the bald sky, while the areas between the "clouds" are held back according to the density of the transparency. Naturally the density of the transparency is quite important, as is the selection of the cloud-scene to be used. In making the transparencies it is more practical to select negatives that have been photographed with good filter correction. These are enlarged to the proper composition on the plate, the lower part being "dodged off" so that a gradual blend exists between the sky area and the lower part or clear area where the foreground of the final composite scene will later be placed.

In use, this transparency is placed some 18 inches from the lens, preferably a wide-angle lens, properly focused and arranged so that the transparency fits into the composition of the scene. Exposure is determined to take full advantage of the smallest stop possible, in order that the transparency and the setting may be in relative focus. In ordinary light, stops of f:14 to f:18 are quite usual with Background-X or similar speed film. In the event the light-value does not permit these stops with that speed of film, then of course the faster films are used.

As the sky acts as the printer, no form of sky-correcting filter may be used, for such filters darken the sky and thus destroy the brilliancy of the "clouds."

The exception to this rule is with the combination 23A plus 56 night-effect filter. My experience is that this may successfully be used and the cloud rendition is very natural. The clouds are not as brilliant as for a day scene, which is exactly as it naturally should be. Because the sky acts as a printer it is not necessary that the sky be blue. On those days where there is much aerial haze and the sky is white, the cameraman equipped with this invention

(Continued on Page 342)

中國戰時攝影記者



CHINA'S WARTIME CAMERA-ACES

By FATHER CHARLES MEEUS

Photos by Thomas Kwang, Chungking

WHEN I left Hollywood with its army of glamorous camera people in June a year ago, it was with a definite promise to THE AMERICAN CINEMATOPHOTOGRAPHER that the year would not end without my sending in a fine photographic story from China. I anticipated a thrilling "adventure-in-Kodachrome;" I was well equipped with "backlog of quality" Kodak material and with cine-cameras that would "keep pace with my skill," as the Bell & Howell people so flatteringly put it. In short, I planned on a "first person singular" story about what I would do with Filmo and Kodachrome.

But when the big Chinese plane with a last roar of its engine dropped me on the good, free soil of West China, it dropped me right into a very different story—a story infinitely bigger than anything I could write about my own filming: the story of what China's little

band of heroic camera aces are doing for love of their country. How, under gunfire and bombings, at the risk of their lives, they are plying their still and cine cameras to show to China's re-born millions what the new-found will to resist is accomplishing in the face of invasion, and to show tangibly to the outside world at large how China is fighting back with men and machines—and preparing in times to come to fight back more and more strongly.

The day I arrived in Chungking was the "double-ten" October anniversary of the founding of the Chinese Republic in 1911. Unaffected by the certainty of a menacing "ching-bao" (air-raid alarm), a huge parade through the streets of the city had been organized.

I watched them march by, the boys of China, singing and cheering, and my camera clicked to the rhythm of their steps. I watched the little girls march

past, singing songs of hope and resistance . . . of reconstruction. Adorable little kids—Girl Scouts in neat green uniforms—lean, sturdy Boy Scouts in Khaki. I found myself caught in the delirious crowd of blue-clad countryfolk who had come into the city for this celebration; we passed under huge arcades of flowers and inscriptions that had been erected for this day of jubilation.

Closer and closer, though, came the air-raid alarms—Chungking always has two hours' notice of raids, for there are but two routes the raiders can take, and reports from spies watching the enemy air-fields, and from spotters as the planes enter Szechwan Province give ample time for everyone to get to safety in the caves and shelters hewn in the living rock, deep-buried beneath the mountains.

Church-bells started to peal—sirens to scream—and all of a sudden they vanished, those people of Free China. The



On Aug. 12, 1940, 140 bombers dropped more than 3500 incendiary bombs on Chungking. Cameraman Warren Lee filmed the entire raid with his 16mm. Filmo; the film, from which this is enlarged, was developed within half an hour in the dugout-studio, and on the screen the next day.

streets were emptied: 400,000 people had gone to their dugouts, cut in the rock of Chungking, the impregnable!

I was directed by my guide to a nearby dugout in the slope of a hill. As I rounded the protective curb of the entrance where a soldier stood on duty, in the darkness the sudden glare of a powerful lamp caught me unawares. To my amazement I found myself standing in front of a professional cinema troupe, shooting a movie-scene in the dugout! There, undisturbed by the Nipponese, they were fighting back with pictures intended for consumption among the brave people of China! They were none other than the official cameramen of China, to whose studio I had been guided in thoughtful attention by my good Chinese friends.

I was introduced to them, and here is what they told me. "The terrific pick-up that China's system is delivering in the present emergency is inseparably interlocked with the education that the people behind the front lines are getting of the process—and progress—of our war of resistance.

"There, where daily life brings them only the vision of ruined villages and homes, of maimed and dying victims of the war—where, far from the actual fighting front, they may see little or nothing of what their country is doing to fight back, and only get the visits of Japanese airplanes to remind them that any war is going on at all—they still have to participate efficiently in the resistance and reconstruction program of China. And there—pasted on walls—printed in their daily newspapers and magazines—projected sometimes on a screen white-painted on living rock—they find still and motion pictures of China's problems, and what China and her people are doing to overcome them. Photography is indeed playing a great and vigorous part in the war of resistance.

"Tonight," he added, "We're going to cover a night celebration . . . a photographic pain in the neck, but we always manage to make it somehow without flashbulbs or photofloods if we can."

"One picture is worth ten thousand words," said the ancient sage of China—and these young men, the gallant, resourceful photographers of Free China,

are daily proving it.

As he turned back to his work, I wandered through the underground studio, constantly amazed by what was being done. Here, a movie unit filmed 16mm. sound-films, gleefully keeping the cameras turning even though Japanese bombs were falling like deep-voiced rain on the rock overhead, making the entire mountain shake. There, another group was making animated cartoons, in which oriental cousins of Hollywood's Mickey Mouse preached the doctrines of patriotism and resistance.

In another rock-hewn room, still photographers were calmly developing negatives, prints and enlargements, dextrously using chopsticks as print-tongs. I went to the washing-tray and turned over a few wet copies of the latest prints. They showed a few pictures of bombings and big fires—action-shots if there ever were any: "the terrific heat of those fires scorched our skin and our cameras," they told me.

There were pictures of the other side of things, too—enemy planes brought down by the air defense—captured materiel—and all the little what-nots people behind the lines like to see.

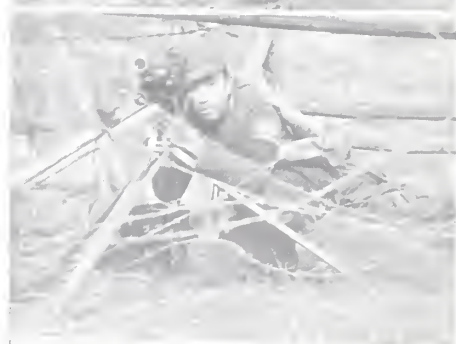
As I looked, they brought in a sheet of Kodak Universal Broma, still dripping from the hypo-tray. I gave a "Wah!" of delight, for it was a picture that showed what we so often hear about, but seldom see picturized—China's resources. "When the people in the rear see that one," said my friend the photographer, "they will realize this good land of ours is worth fighting for! They'll see why the Japanese are bent on conquering our land for its resources—look at this great fleet of trucks being loaded with tung-oil to start its long trek down the Burma road to an American port!

"And at the same time, I hope they'll realize that all the sacrifices they may make for the coming victory are worthwhile!"

But what they won't see is what these men go through sometimes to get these photographic honeys. Outside, the roar of enemy planes was making an awful racket, anti-aircraft guns were barking with their peculiar staccato chatter. As I turned around in the cave that was shaking with the concussion of heavy bomb-explosions, I saw these men, calmly going on with their work—undisturbed and concentrating on their job for the salvation of their country.

And right then, I made a wish—I wished that the whole world of photographers might know more of these, their heroic Chinese confrères, for in this crazy world of ours the common brotherhood of photography is a true entity, such as is the brotherhood of painters and sculptors. And that is why I am writing, not a story of myself and my own pictures, but a record of these men of lens and shutter—these camera-aces of New China who through these years of war, with the simple click of a tiny button, sometimes at the peril of their lives, are working not only for their

(Continued on Page 344)



Top: At the front soldiers and cameramen alike wear "tin hats" and gas-masks; second: for close-ups of the enemy, Chinese cameramen steal perilously through the barbed wire; the camera is a Filmo; middle: shooting the sentry—with a Bolex; below: camera in hand, they sleep on floors . . . in stables; the camera is an Eyemo; bottom: making animated maps in the dugout-studio during an air-raid; the camera is a Cine-Kodak Special.

An Artist Looks at Technicolor Cinematography

By BUCKLEY MAC GURRIN

NOW that Technicolor features have been produced in sufficient numbers to be accepted more or less as a matter of course, the motion picture has reached its maturity. Color was the only element of the work of art which was previously lacking. Now the rounding-out process is complete, and we are in possession of an art form capable of the greatest refinement. It is a genuine art form, too, because it possesses the essential which has determined the authenticity of all the art forms which have preceded it; namely, it is technically compatible with the age that produced it, and contains within itself the resources necessary fully to express the ideology of that age.

As a practicing artist I am naturally inclined to see everything both in nature and in society in terms of art. At the same time I am aware that a great many people in the motion picture industry are mightily suspicious of the word. Nor can they be blamed, since "art" in their experience has, unfortunately, been too often converted into "artiness," with all the gauzy, static, ponderous, unintelligible consequences which follow. But, so far as that is concerned, the same sad truth obtains in my own field. God knows there are at any given moment miles of gallery walls covered with paintings which are "arty" and not "art." This fact in no way alters the necessity for a rigorous application of the laws of art in order to produce a good painting, and it is also true that a good motion picture can only be produced by the same means.

All of the elements which enter into the production of a painting are functional. Their function is to produce a harmony, and the nature of the harmony to be produced is determined by the painting's basic significance. A motion picture deals with many of these same elements plus others which are peculiar to motion pictures. When these elements are perfectly harmonized, the picture as a work of art approaches perfection. Whether or not it is a *great* work of art then depends on the great basic factor: its significance. But even though this significance may not be really great and sublime, its perfect expression is still bound to be deeply moving. It is when one of the elements is stressed to the disadvantage of the oth-

ers—that is, when the perfect equilibrium is destroyed and the complete expression thereby rendered impossible—that art pops out of the window and artiness comes in. And that means boredom.

With some such distinction in mind, there should no longer be any conflict between a film's "entertainment value" and its value as a work of art. And I don't think that such a conflict exists today so far as the cinematographers are concerned. The major evidence of this fact is the ever-increasing co-ordination between photography and the other elements in the pictures one sees, plus the articles in the *AMERICAN CINEMATOGRAPHER* where so much stress is laid upon the importance of subtle interpretation via the camera of what may truthfully be called psychological aspects of the problem, as distinguished from the purely technical preoccupations which, once upon a time, kept the boys behind the camera busy, if not happy. I suppose the public is not yet fully aware of the debt it owes the A.S.C. for the long battle to so influence the industry as at last to be able to participate properly in the preparation of shooting scripts, sets and costumes. But the results of the victory are well in evidence today, and the public will certainly not be tardy in recognizing the cinematographers' contribution to their greater enjoyment.

The necessary expansion of the cinematographer's artistic equipment to include the vast resources of color was admirably illustrated by Rouben Mamoulian's interesting article in the *AMERICAN CINEMATOGRAPHER* for June. Until recently there has been a point at which the black-and-white photographer and the creative painter had necessarily to part company; the psychology of color was, obviously, a level upon which they both could not meet. Composition and mood-lighting were their common property, and the cinematographer was highly skilled in gauging the relative impact of objects as they would appear in the gamut from black to white. Like the painter, too, he could manipulate his contours over a wide range, from extreme sharpness to extreme diffusion, and he used this resource with much cunning. But color has always been at least as eloquent a factor in expression as form

has been. To say that it has been a greater factor would, perhaps, be a controversial statement, but it cannot be denied that color allied to form produces the maximum effect on the beholder.

So long, therefore, as color was denied the cinematographer, his art was necessarily incomplete. Now it is here, no longer on probation, and hence, as I said at the beginning, the motion picture can now be considered a complete art form. Not the least remarkable feature of this development seems to me to be the fact that, coincidental with it, the cinematographer has become the Director of Photography, and by that fact is able to exercise the control of color which its successful use requires. Now we must see whether the Director of Photography can absorb the science of color and use it as skillfully as he has previously handled the black-and-white range.

No pessimist, I am yet not sure that this important and difficult task will be easily accomplished. My own long struggle to sensitize my eye to subtle color differences is still painfully fresh in my memory, and what facility I did acquire was achieved by actually breaking down the color and reproducing it by painting from nature. What I have subsequently learned about its suggestive power, its poetical implications and symbology is still another complicated and arduous process.

Perhaps the cinematographers, although accustomed for years to transposing color into black-and-white, will find some quick substitute for this typical artist's experience. But it would seem that now, more than ever before, there is a potent reason for a close collaboration between the cinematographer and the creative painter.

When Mr. Mamoulian was still making "Becky Sharp," and the cine-world was waiting the picture's release with all sorts of mixed emotions, it seemed to me that the moment was already at hand for such a collaboration. I remember talking with Paramount's Hans Dreier at the time; I thought that henceforth a new set-up would be necessary in all the studios, with a color-supervisor transposing the script at once into terms of color and then working in close collaboration with every department concerned.

This procedure is essentially the one Mr. Mamoulian described in his article relative to "Blood and Sand." His solutions of the problem of controlling color for dramatic effect were highly ingenious, but, however novel they may appear in connection with the cinema, they are nearly all quite orthodox mechanisms for the well-informed artist. It is permissible to assume that Mr. Mamoulian is exceptionally well-informed concerning color as it has been used by the great painters of the past, and that not all of his fellow directors are so equipped.

No artist could be insensible to the compliment Mr. Mamoulian paid his profession by this tribute to Velasquez, El Greco, Murillo, Titian, Paolo Veronese,

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THERE'S nothing particularly new about the idea of using studio lighting-units in place of reflectors when filming exterior scenes. We've been doing it for twelve or fourteen years to such an extent that today it is entirely conceivable to see a major studio production unit going out on location without even one of the once indispensable reflectors, but seldom, if ever, without at least a few Mazda boosters.

But during the past few months I have been wondering if we were making the best choice from the available light-sources when, as most of us do, we employ incandescent reflector-spots for this service. It has seemed to me that in filming black-and-white exteriors, we might do very well indeed to take a leaf from the Technicolor cinematographer's book and use modern arc spotlights as booster-light sources.

The Technicolor cinematographer, of course, chooses arcs for this work because he almost has to, and because they are inevitably available in quantity when any Technicolor production is being made. As is well known, the modern arc spotlight, when equipped with its "Y-1" straw-colored filter, produces light that exactly matches the color-composition of normal daylight. Therefore it can be freely mixed with daylight in almost any conceivable way, always producing a chromatically natural-colored effect in the Technicolor shot. An ordinary, unfiltered incandescent lamp, on the other hand, emits a ruddy glow which, in a color-shot, would produce on the faces of the players an effect rather like that of the late-afternoon sun. This would obviously be incongruous with the rest of the scene normally illuminated.

The same thing is happening, of course, when we mix daylight and incandescent booster light in filming black-and-white exteriors. Naturally, since the picture is in black-and-white, it doesn't show up so prominently; besides, we are accustomed to it, and not consciously looking for it. But it is there!

Theoretically, this warmer-toned light can produce a definite, if not always immediately noticeable filtering effect on the faces we are photographing. Like a yellow filter, it can lighten face-tones, and minimize the tonal separation between faces and lip-makeup.

Therefore on my last several pictures I have been, as occasion permitted, making experiments with the use of modern arc spotlights as boosters. The results so far have been gratifying.

The most convenient units for this use, I have found, are the comparatively small 65-Ampere Fresnel-lensed high-intensity arc spotlights recently evolved for Technicolor use by Mole-Richardson. Most studios are acquiring these lamps lately, for even though no Technicolor productions may be immediately scheduled, they are proving very useful for effect-lighting in monochrome at the lighting-levels generally used with to-

Using Arcs as Boosters

By MILTON KRASNER, A.S.C.

day's fast films. Their beams are smooth and accurately controllable—distinctly better than those of the reflector spotlights so often used as boosters. And they are compact and convenient as location equipment.

Used with the straw-colored "Y-1" filters, or even a slightly warmer-toned amber one I've found to be somewhat preferable, their light makes an excellent blend with normal daylight. It can be used perfectly for filling in shadows when direct sunlight is used for the highlight-side. Working in the shade or under scrims these filtered arcs, properly flooded and diffused, can take care of all the front-lighting, and still blend naturally with the natural illumination. Without their filters, or with lighter ones, they can often produce an illusion of direct sunlight when this is necessary.

There is another very definite advantage to the use of arc boosters: they are much easier on the actors. Probably the fact that an incandescent lamp is easier to look into than a dazzling reflector had as much to do the swing from reflectors to boosters as did the more purely technical factors of greater dependability and control. This naturally become increasingly important as film-speeds have progressively increased, making it possible for us to use less and less light on the interior sets. Actors' eyes, accustomed to facing this comparatively low-intensity illumination in the studio, and to wearing smoked glasses outdoors when not working, as so many of them do, are naturally not conditioned to remain natural when faced by a battery of glittering reflectors. According-

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MARINES MAN THE MOVIE CAMERAS

By SERGEANT ALFRED W. ROHDE, JR.

U. S. MARINE CORPS, PHOTOGRAPHIC SECTION

AS Adolf Hitler's mighty war machine rolled across Poland late in 1939, trained military motion picture cameramen kept pace with the German armies, recorded on film every detail of the attack. Not only did their pictures show Germany's tactical coups and Poland's blunders, but after careful editing they revealed, *dramatically*, the methods of the modern German "blitzkrieg" type of war. Invaluable in training young officers and enlisted men of the Reich army, the pictures proved to be a potent, awesome force when they were exhibited to the high commands of Norway, Denmark and the Low Countries just before the Nazis subjugated those helpless nations. Under the American title "Baptism of Fire" a portion of these films have been included as evidence of the brutality of Nazi Germany in the March of Time's powerful feature "The Ramparts We Watch."

Under the new system of selective compulsory military training, we are building our Army, Navy and Marine Corps to a full emergency force. Speed is essential in training these men to the uses of modern warfare, and it is believed that the use of military motion picture films—a visual aid in the school of the soldier—will prove an effective

time-saver. Both the U. S. Navy and U. S. Army have long maintained motion picture photographic sections, but not until May, 1940, did the Marine Corps start laying the foundation of a Motion Picture Photographic section. The purpose of this projected section will be to photograph every training activity of the Marine Corps in peace and in war. But its films though edited with "punch" and "effect", will not have as its aim, as did Hitler's "Baptism of Fire", the "softening up" of the military and civilian populations of helpless nations. Its purpose will be to make films which will enable the Marine Corps personnel to be accurately informed of the latest methods on modern warfare.

The purpose of training films will be to serve as an aid to the training instructor and not as the sole means of instruction. By presenting on the screen a subject which is under discussion in the classroom, it is hoped that the use of films will materially shorten the time required by other methods of instruction in a given subject.

It is believed that the most effective uses of training films will be to show: (1) events that will occur over widely scattered areas in dangerous zones, or view from positions where it is imprac-

ticable to take observation groups, demonstrations of a costly nature or restricted to performance in distant or inaccessible localities. The main point in this latter is that the demonstration can be illustrated repeatedly without additional cost, or brought to groups at a distance from the place where such demonstrations can be given, (2) functioning of enclosed parts, (3) invisible processes, of technical or tactical subjects.

The production of these sound motion pictures involves the practical application of many physical, chemical, and psychological laws; the applicable principles of optics, acoustics, light, precision mechanics, electrical amplification and sound reproduction, together with the complicated chemical and physical processes of picture development and reproduction.

In addition to these purely technical phases, personnel engaged in the creative phases of motion picture production such as, scenario adaptation, direction, cutting, editing, and animation, must have an understanding of the psychological factors involved in motion picture technique.

In order to make these educational motion pictures of substantial value to

On opposite page, left: Sgt. Alfred W. Rohde, Jr., USMC (left) with Eyemo in hand, discusses an aerial shot with a Marine Corps Parachute Trooper during the making of "From Ships of the Sky," publicity short for Marine Corps Parachute Section. Center: Filming a close-up of a marine in battle dress for a Marine Corps Training Film. Lieut. W. Halpern, late of Hollywood's film industry, directs, while Staff Sgt. Rogers and Sgt. Rohde man the Mitchell. Right: The Marine Corps Photographic Section's motion picture production staff at work in the field making a training film. To the right on this page Staff Sgt. Rogers (left) and the author are seen at work in the field. All photos by U. S. Marine Corps Photographic Section.



the Marine Corps, personnel on the creative tasks must also have sufficient military and technical training to achieve a balanced perspective and to correlate all these varied factors.

Training films produced by this section will be divided into the following general classifications:

(a) *Mechanical*: Subjects in this class explain the mechanical functioning or operating characteristics of weapons, material and equipment, illustrate the organization or equipment of units and explain physical or chemical phenomena of military value.

(b) *Technical*: This class of picture illustrates the use of weapons and equipment, and the actions of an individual or of a group in performing an operation or a series of operations with a discussion of factors involved.

(c) *Tactical*: This class of picture illustrates the application of the basic principles of combat tactics of the different arms and services as set forth in the authorized Training Regulations and Manuals. It is usually based on a situation requiring a decision and plan of action. In general, because of the audience groups for whose instruction the picture is intended, the combat principles governing the employment of small tactical units are considered more suitable subjects for this class of film.

(d) *Skill*: This class of picture is used to permit development of skill in an individual who is required to perform certain actions while observing action portrayed on the film.

To acquire the technique of producing motion pictures the Major General Com-

mandant, in May, 1940, assigned two men to special detail at the March of Time studios, in New York City. There, in a "training school", conceived by Producer Louis de Rochemont, Staff Sergeant John Rogers and the author took a nine-month course in up-to-date cinematographic reporting. Mr. de Rochemont, who, in the March of Time, evolved modern screen journalism, was for seven years an officer in the Navy, during and after the last war, and is an ardent motion picture photographer.

To him goes the greatest credit for the development of motion picture sections in the U. S. Coast Guard, U. S. Navy and the U. S. Marine Corps. He has long recognized the value and importance of photography in all phases of military operations and activities. He has also been working continuously with the officers in charge of these sections to organize complete, effective and well equipped photographic units. At the present time he is training in his school 21 specially-qualified enlisted men from these branches of the services.

Captain Wallace M. Nelson, USMC, who is the Officer in Charge of the Marine Corps Photographic Section, has received his special training with the U. S. Army Signal Corps Photographic Section, in Fort Monmouth, New Jersey. The section has its headquarters in the Marine Corps Schools, in Quantico, Va. And with a nucleus of two March of Time-trained men is building an able and efficient detachment of official cinematographers that is making an important, though small, contingent of the Marine Corps. Their future assignments

will take them on the land, on the sea, and up into the blue heavens of the sky. There will be hardly any medium that will not respond to the searching conquest of their relentless lenses.

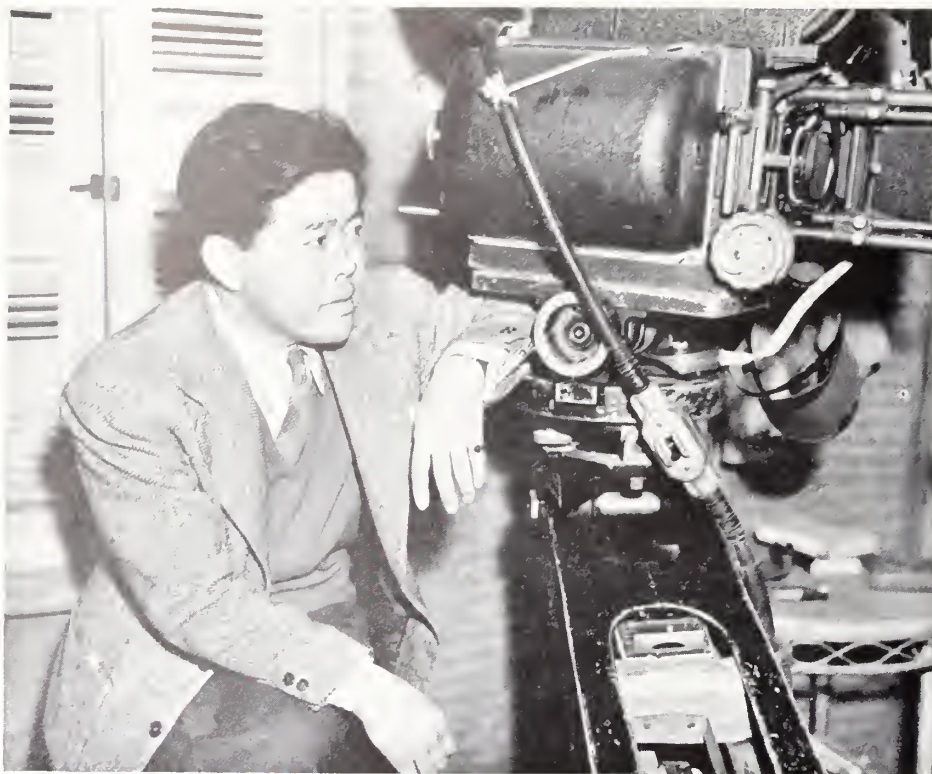
During the past summer of 1940, we produced our first motion picture. Which depicted a typical day in the life of a "Leatherneck" of the New York World's Fair Detachment located at Camp George Washington. Working on our own, without the aid of an instructor, we put to practical use the knowledge which we had gained from our studies at the March of Time.

The film covers all the events of the day, from the reveille bugle at sun-up to the soothing call of taps. Some of the outstanding scenes from the picture were made at the Court of Peace and show the nation's crack drill team and the drum and bugle corps going through the paces which have brought them praise and admiration from the Marine Corps, as well as from the thousands of World's Fair guests throughout the summer.

This first short subject, which will have the title of "World Fair Marines", was co-photographed, and edited by Staff Sergeant Rogers and myself. It has been screening throughout the Marine Corps and general public within the last few months.

We believe this graphic motion picture record will mark another milestone in the continued advancement of the United States Marine Corps.

The author wishes to express his appreciation for the many helpful suggestions and the cooperation of the U. S. Army Signal Corps in assembling this material.



Aces of the Camera

VII:

JAMES WONG HOWE, A.S.C.

By WALTER BLANCHARD

THE fact that James Wong Howe, A.S.C., is Hollywood's only Chinese director of photography is of only secondary importance. What is really significant is that, without reference to race or any considerations other than what he puts on the screen, he is universally recognized as ranking high among the half-dozen greatest camera-artists of the world. And he has held that ranking for close on twenty years.

Psychologists who debate the respective influences of heredity and environment would find endless interest in Jimmie Howe, who is at once oriental and occidental. Born in the Chinese province of Kwangtung, he came to America as a child when his parents came to the Pacific northwest. There, young Wong Tung Jim captivated the attention

of a well-to-do Irish-American family, and his early years were spent largely in this far-from-Chinese environment. As a result, Howe's character is a curious blending of the best qualities of the Irish, the American and the Chinese, overlaid and interwoven to produce a thoughtful and sensitive artist, combining the keen imagination of the Irish, the directness of the American, and the Chinese passion for simplicity and good taste.

The latter characteristic is perhaps most strongly marked in his approach to lighting. Recognized as an outstanding master of low-key lighting, he has an uncanny knack of getting the maximum effectiveness not merely from a minimum amount of light, but from a minimum number of light-sources.

"Why," he asks, "should we think our lightings have to be complicated? In real life, the lighting effects we see in a room or outdoors aren't complicated. Why should we, striving to duplicate their effect on the screen, inject added complications?"

"Fifteen or twenty years ago, we had to, in order to get adequate exposure with the slow emulsions and lenses we then had. But today we have infinitely faster films, better lenses, and more efficient lighting equipment. Our photographic exposure-levels are drawing increasingly closer to the actual room-illumination levels whose effects we are trying to duplicate. We have an opportunity, therefore, to simplify our lightings, too, to a closer approximation of the realistic effects we want to reproduce.

"This matter of exposure-levels, incidentally, is something that can very easily be overestimated. Surveys have shown that cinematographers in almost every major studio may light at levels differing from each other by several hundred per cent—yet each gets satisfactory results on the screen. The real secret of lighting is balance: if you maintain the correct relative balance between highlights, intermediate tones and shadows, it does not matter greatly if you use a key-light level of 50 foot-candles, 100, 150 or even more.

"The advantage of using lower lighting-levels, as I see it, is this: employing less light, from fewer and smaller units, one is able to achieve a closer approximation of the actual effect he is trying to reproduce. He simplifies his lighting, and in the process, achieves better effects and gives the actors more comfortable and natural surroundings in which to work.

"Personally," he continues, "I like to approach lighting from the viewpoint of composition, rather than lighting. There is always one important detail of each composition which is the key to the whole meaning of the scene—and which can be the key to your lighting as well. Sometimes it may be the face of a principal player; sometimes it might be part of the set, or even a small hand-prop. Find that key detail, and make it the keynote of your composition. It will become the keynote of your lighting as well. Light it. Then light the people, striving for the simplest and most pleasing modellings. Then light the set as needed to complete your composition—and as your composition is completed, your lighting will be, too.

"With today's fast films, set-lighting can often be simplified to putting in the desired highlights where the composition needs them, and then letting the 'spilled light' from these units and those illuminating the people take care of most of the filler-lighting.

"I have found this particularly true in some experiments I have recently made with the use of Super-XX. Opinions as to the best way to utilize this

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IT is only within the last year or so that incandescent light-sources suitable for use in Technicolor photography have been developed, and only within the last few months that they have been used to any great extent. Previous to that, virtually all Technicolor lighting—with, of course, the exception of warm-toned light-effects—had been done with arc equipment.

The reason for this is simple enough. When the present three-color Technicolor process was devised, its originators were faced with the commercial problem of making their process easily adaptable to both exterior and interior filming. In the previous two-color process, it had been feasible to make use of interchangeable filter-units within the camera, which could balance the color-response of the process to either the pure white light of daylight, or to the warmer light of Mazda globes. This was not considered practical with the three-color system. Neither was it practical to develop special film-stocks for interior and exterior use, as in the Kodachrome process.

Accordingly, the best solution was to standardize, at the start at least, on interior lighting of a color closely matched to the white light of normal daylight. Arc lighting offered the closest approach to this; the broadside floodlighting units, equipped with suitable carbons, gave light of a perfect daylight color-balance; the high-intensity spotlights, when fitted with a light straw-colored filter (the so-called "Y-1"), also matched daylight. The arc was also an extremely powerful light-source—an important consideration in view of the high lighting-levels needed for the early, slow-speed Technicolor film. Therefore arc lighting became the Technicolor standard.

The problem in suiting incandescent light-sources to Technicolor lighting was one of obtaining from this normally warm-toned illuminant a light of the blue-white color which matches daylight. This has been accomplished by a combination of two methods. First, special globes of the Photoflood type (known as the "CP" type, and operating at a color-temperature of 3380° K.) were developed. Second, the considerably whiter light of these globes was further corrected to the desired daylight-white standard by means of a special daylight-blue filter, mounted directly behind the lens of modern Fresnel-lensed spotlights. Developing a filter for this purpose, which would combine the color and the stability demanded by the Technicolor engineers was a problem; but that, too, has been overcome in the present Macbeth daylight filter.

From the practical cinematographer's viewpoint, this gives a range of perfectly-matched lighting units for use in Technicolor, which is unapproached in monochrome. The Technicolor cinematographer today has at his disposal lighting units ranging from the big 170-Ampere H.I.-Arc spotlights down to the 750 and 500-Watt "Baby Kegs." And for normal effects, there is no question

as to differing actinic effects from mixed lighting, for both arc and incandescent units are so accurately corrected to the same color standards that their beams may be mingled with no perceptible difference on the screen.

Perhaps the chief advantage of the incandescent spotlight in Technicolor lighting is that the Mazda globe, unlike the arc, will burn in virtually any position. An arc spotlight can of course be angled down sufficiently to provide normal set-lighting from an overhead lamp-rail on the other side of the set; but it is none too practical to angle them sharply downward to illuminate anything directly below the lamp. And it is virtually impossible to suspend an

arc from a "trombone" or similar wall-hanger and point its beam directly downward to light an object or person close to the set-wall, as is so generally done with inkies. In the same way, while it would be difficult, if not impossible, to suspend an arc spotlighting unit on a rope directly over the center of the set, it can easily be done with a modern color-corrected inkie—and the result on the screen will be identical, regardless of which light-source is used.

Moreover, with the increased speed of today's Technicolor emulsions and processing, the smaller, lower-powered incandescent units, which previously had

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The "Inkie's" Place in Technicolor Lighting

By ERNEST PALMER, A.S.C.

Palmer, Rennahan Top Preview Poll

Two outstanding Technicolor productions battled for first honors in the May Hollywood Reporter Critics' Preview Poll. "Blood and Sand," photographed by Ernest Palmer, A.S.C. and Ray Rennahan, A.S.C., finally took first place, with "Billy the Kid," technicolored by Leonard Smith, A.S.C., and William V. Skall, A.S.C., running second. Third place went to Robert Planck, A.S.C., for his outstanding black-and-white camerawork in "A Woman's Face."

Joe Ruttenberg, A.S.C., drawing the assignment to photograph the new Greta Garbo picture completes a clean sweep of MGM's big-shot contract list. He tells us he has now worked with every female star, every male star, and every director on MGM's impressive talent roster. Quite a record!

Add "power of the radio"—Charles Lang, A.S.C., started blithely off on his vacation last month, accompanied by Mrs. Lang. Meantime, his bosses at Paramount had loaned him to Walter Wanger to film "Sundown," which troupe was already en route to Acoma Rock, New Mexico, for location scenes. But—nobody knew where or how to reach Charlie, vacationing somewhere in the family car. Finally Wanger publicist Johnny Johnston prevailed upon radio newscaster Bruce Manning to go on the air with a story of the situation. Parked in his car atop Sentinel Butte in Yosemite, Charlie listened in, and as a result rushed homeward and planed out for location!

Trade-papers report Nick Musuraca, A.S.C., secretly married early last month. If it's so—congratulations, Mr. and Mrs. Nick!

Ernest Palmer, A.S.C., beaming over a new term contract from 20th Century-Fox. . . . And did you ever notice the warm friendliness with which Ernie welcomes visitors to his set—? Even when, as now, he's busy solo-piloting a big Technicolor feature like "Honey-moon In Havana," he never fails to make you feel at home.

Milton Krasner, A.S.C., thoroughly tanned after weeks on location at sea and around Lake Tahoe for Frank Lloyd's Universal biggie, "This Woman Is Mine" (if they haven't changed the title again!).

Johnny Fulton, A.S.C., by the way, trekked to Tahoe to supervise blowing up a 36-foot miniature ship for the same picture . . . and promised to film it in 8mm. Kodachrome and give us a peek.

Sol Polito, A.S.C., off for Canada to Technicolor Warners' big Royal Cana-

A.S.C. on Parade

dian Air Force epic. On the same pic, Byron Haskin, A.S.C., and Elmer Dyer, A.S.C., spent a week-end planing to Norfolk, back to Hollywood and then up to Canada.

Jerry Ash, A.S.C., slowly recovering from a near-fatal case of bronchial pneumonia which has kept him bedded since April 9th.

Virgil Miller, A.S.C., drops us a cheery line that he's just started his 34th at 20th-Fox (not counting a short apiece for Army and Navy) . . . and he's had the same crew for more than 20 of them. "My fourth son," Virge adds, "just graduated from Occidental College. So far I've sons graduated from U.C.L.A., U.S.C., Cal-Tech, and Occidental, with one more to go . . . no wonder our colleges are doing well financially. Also, my total is four boys subject to the draft—too bad I'm just past 36!"

William N. (Billy) Williams, A.S.C., takes time off from his work with Vern Walker's RKO Trick Dept. to have a nervous breakdown. Best wishes, Billy, for a speedy recovery!

Joe Valentine, A.S.C., wandering about Universal City waiting for his next—the Margaret Sullivan starrer—to get under way. You should see Joe's fashion-plate white flannels . . . he's quite the picture of what the best-dressed cinematographer should wear—between pictures!

John W. Boyle, A.S.C., Universal's other fashion-plate, passing by with a gorgeous specimen of 'location tan' from filming "Raiders of the Desert."

Lloyd Knechtel, A.S.C., off to Florida for MGM's latest Tarzanepic.

L. William O'Connell, A.S.C., doing right by "The Blonde from Singapore" at Columbia.

Jimmie Howe, A.S.C., dividing his time between his Ventura Blvd. restaurant, Ching How, and checking over sets for his next, "King's Row" at Warners. And have you tried that Ching How cooking—? It's something!

Arthur Miller, A.S.C., commuting between studio and location 'cause they're filming "How Green Was My Valley" in sequence.

Hal Rosson, A.S.C., pinch-hitting for Bill Daniels, A.S.C., when illness took Bill off MGM's "Honky Tonk" set.

John Seitz, A.S.C., on the "Sullivan's Travels" set at Paramount, talking to a uniformed youngster who turns out to be his Assistant, "Skippy" Burgess, en route to a year's contract (with options) with Uncle Sam's Army.

Henry Freulich, A.S.C., directing the photography of Columbia's "Go West Young Lady."

And we don't know any more enthusiastic booster of American-made lenses than Rudy Maté, A.S.C., who's tried 'em all on two continents, and swears the Rochester-made Baltars are the best he's ever used.

Farciot Edouart, A.S.C., smiling for publicity stills with Keystone's 8mm. camera . . . he's an ardent 8mm.-shooter on his vacations.

A.S.C. Prexy Fred Jackman beaming at nice notices the trade-papers gave the process-work Fred Jr., likewise A.S.C., did in "Forced Landing." We've got it in for Fred, Sr., by the way: he went and spoiled a gag we'd planned to use here, wondering if he'd charmed the birds in the tall pine tree by the A.S.C. clubhouse . . . then he went and parked his snazzy green Buick somewhere else, far from the tree and its inhabitants—but definitely!

Jackson Rose, A.S.C., busy on a super-special Defense short for MGM.

George Barnes, A.S.C., on loan to MGM to film "New York Story," the Edward G. Robinson special.

Theodor Sparkuhl, A.S.C., dusting off the coated lenses for Paramount's "Remarkable Andrew." And did you know Ted used to be a practicing M.D. before the camera germ got him—?

Harry Stradling, A.S.C., follows director Gregory Ratoff over to Edward Small Productions where they'll do "Corsican Brothers."

Joe Walker, A.S.C., teams with Wesley Ruggles for "You Belong to Me" at Columbia.

Russell Harlan, A.S.C., carries on for Harry Sherman's Paramount unit, doing "Stick to Your Guns."

Congratulations to two new A.S.C. members—Daniel Fapp, A.S.C., and Arthur Arling, A.S.C.

Ray June, A.S.C., draws the camera assignment filming "The Female of the Species," Rosalind Russell's adieu to MGM.

THROUGH the EDITOR'S FINDER

DURING recent months we've been receiving an increasing number of letters from members of the Photographic Sections of the Army, Navy, Marine Corps and Air Force, asking for technical information which will aid them in their tasks of making instructional, historical and publicity films for their various services. To them, and to their fellow-cinematographers in the uniforms of this and the other free and friendly nations we want now to say that we are glad to get such letters. In fact, we invite them. The American Society of Cinematographers is composed of the world's greatest experts in motion picture photography. Through these men, **THE AMERICAN CINEMATOGRAPHER** has access to what is literally the fountainhead of the most authoritative, up-to-date and practical information anywhere available on all things cinematographic. Through the Society's Associate Members and friends in other closely-allied fields, we have access to equally outstanding information on virtually every allied topic—sound-recording, laboratory work, optics, and the like. This information is always at the disposal of our readers, and today, doubly so for those who are making motion pictures as a part of the democratic world's great struggle for freedom.

But please don't follow the example of one reader, a grizzled Navy Chief Photographer who had seen photographic service in every sea. He called on us some years ago for information which would help him in his assignment of filming the activities of the U. S. Pacific Fleet. We took him to an A.S.C. member who had just filmed a studio production involving much location-work with the fleet. Our salty friend got the information he wanted; and in the process, a glimpse of the latest in cameras, lighting-units and sound-stage equipment. "Wonderful!" was his comment. "Just wonderful. But where the H--- could I stow 'em aboard a battleship?"

NOT long ago an outstanding member of the A.S.C. was in consultation with his doctor. The medical man asked the cinematographer when he had his last vacation; "I hardly know," was the reply, "my studio has kept me going from one picture to the next so rapidly for the past couple of years that I've scarcely had more than week-ends and holidays to myself."

"H'm," replied the doctor, "that scarcely seems logical. From what you have told me about your work, and from what I've learned about you from others, you make on an average from four to six big, top-budget, long-schedule pictures per year. You are completely responsible for the photography—that is, it is your responsibility to see that these pictures reach saleable form in celluloid.

"To my way of thinking, that means

you are literally an executive responsible for from \$5,000,000 to \$8,000,000 or more of your corporation's invested money every year. Responsibilities like that constitute a mental and nervous load that can burn a man out quicker than any kind of physical labor. What kind of an industry is it, anyway, that won't for its own benefit see to it that you take a real vacation every year—far away from even the thought of studios or pictures or work—so that you'll last longer and be there to make more pictures for them?"

We'd like to commend this doctor's statement to every studio executive in the industry. In the final analysis, the director of photography is the one man in the production unit who cannot make a mistake. Does the actor muffle a scene—? Why, a retake, of course! Does the director fail to get the most out of a scene or a sequence—? We'll retake it, of course! Does the writer's continuity or dialog seem faulty on the screen—? Retakes will cure it, of course! But—let the director of photography miss out on a single take—and the answer is "He's slipping—doesn't he know retakes cost money?"

And the director of photography is the one man on the set who can never relax. He comes to the studio half an hour or so before the director and players, so that everything may be organized for the first shot when they arrive. Between takes, while they relax, catch up on their reading and maybe improve their gin-rummy, he is lighting the next scene, composing the next set-up. While they are rehearsing, he polishes his lighting. While they make their scene, he is constantly on the alert to see that everything is right for the camera, and that nothing can be improved. He cuts short his lunch-period, so that he can screen the rushes, and then get back to the set to carry on a step ahead of the troupe. When the rest go home, he spends another half-hour or so checking and roughing-in sets for the next day's shooting, or checking his film's progress through the laboratory. Then at last, so exhausted physically and nervously he can often do no more than snatch a quick supper and go to bed, he finishes his day, mentally planning for his next day's shooting. And when he finishes one production, he is routed to another as quickly as possible—often with only hours between.

Is it any wonder that virtually every outstanding cinematographer has stomach ulcers, nervous indigestion or some similar manifestation of the terrific nervous load he is carrying—and that there are an altogether unnecessary number of gravestones in Hollywood's cemeteries marking the final resting-place of A.S.C. members who were prematurely burned out by the burden they carried?

Studio executives like to point out

that there are all too few directors of photography capable of handling their big productions. We can't agree; there are plenty of men today photographing "B" productions who could turn in exceptional work on "A's"; there are experienced men, not at present working, who could do notably on either "B's" or "A's". And there are many alert young operatives who are bound to be the ace cinematographers of tomorrow, who are today over-due for promotion. Far from being a scarcity of talent, there is an abundance.

It is generally acknowledged that Hollywood's directors of photography form one of the industry's greatest assets. Therefore even if personal consideration for the individual be considered a sentimentality out of place in modern big business, we wonder if common-sense business practice wouldn't urge that these invaluable men be given longer and more frequent between-pictures relaxation periods if only to preserve these assets and make them have a longer and fuller productive life—?

IN the Navy they have a word for it—that cheerful, friendly unit of officers and crew which never seems to make very serious work out of anything, but gets things done just the same. They call it a "happy ship"—and experienced sailors tell us these "happy ships" usually have more of the efficiency-denoting "E's" blazoned on funnels, turrets and the like than do those that make a deadly-serious, soul-searing business out of everything.

We in the motion picture industry haven't a word for it, but we have our "happy ships" too. Anyone who, like this writer, spends much of his time going from one studio or set to another can't help noticing it. On one set, you'll find everyone slaving away in grim earnest, with no time for anything save serious thought of the work in hand—of set-ups, schedules and overhead. On another, you'll find the whole troupe apparently taking things easily, with plenty of time, apparently, for gags and laughing, and friendly chats with visiting fellow-professionals. You'd swear that the first troupe, so intent on its job, would turn out twice as much footage as the other, and do it more efficiently. But usually if you had access to actual production figures, you would find it the other way around.

We've known experienced production executives, studio and unit managers, and the like to be fooled by these appearances. In fact, we've heard of instances in which these officials praised the grimly serious crew and railed at the "happy" troupe—only to find that the apparently more efficient aggregation ended up the day well behind schedule

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PHOTOGRAPHY OF THE MONTH

MAN HUNT

Twentieth Century-Fox Production.
Director of Photography: Arthur Miller, A.S.C.

Director of Photography Arthur Miller, A.S.C., can always be counted on to contribute noteworthy photography to a picture, but his latest, "Man Hunt", is exceptional, even for him. A tense melodrama, played in low-key effect-lightings almost from start to finish, "Man Hunt's" every scene carries the crisp, clear-cut impression of a masterful etching. Miller makes full use of every technical and pictorial advantage to be wrung from his mastery of lighting, from coated lenses, and from the crisply black-and-white sets given him by Art Directors Richard Day and Wiard B. Ihnen. His achievement is definitely of Academy Award Calibre.

The picture opens with an unusually well-handled sequence of stage-built exterior scenes as Walter Pidgeon, playing a British big-game hunter, stalks silently through a Bavarian wood near Berchtesgaden, stalking "the biggest game in the world today." Ordinarily the lighting of heavy foliage such as this makes a distinctly difficult photographic problem for the cinematographer, regardless of whether he is using natural or artificial lighting, for each leaf forms a shiny reflecting surface, cross-hatched with tiny blank shadows, and the screened result is seldom altogether pleasing or natural. Miller's treatment of this technical problem is excellent: he maintains the striking mood-lighting necessary, but still keeps his foliage looking natural. These introductory scenes, too, are interconnected with a series of unusually interesting soft-blend "wipes" which are more than ordinarily smooth and effective.

Miller's treatment of some of the later sequences laid within the celebrated Berchtesgaden chateau is a pictorial delight: strong blacks and clear whites make each scene a memorable pictorial pattern, and at the same time form a perfect background for the dramatic action. In an entirely different mood, but just as effective, are the fog-screened sequences as Pidgeon laboriously drags himself on his escape, and the later ones as he lands in London.

Miller's treatment of his players is, also as usual, excellent. In many ways his treatment of Joan Bennett ranks among the best she has enjoyed since she changed her personality from blonde to brunette. The other players fare uniformly well, the men especially getting many interesting and forceful character-lightings.

A great deal of praise must be given to the direction of Fritz Lang—a silent-picture director who has remembered innumerable visual tricks most of the present crop of talkie directors have either forgotten or never knew. Lang makes abundant, and extremely effective

use of silent-picture action, sometimes entirely unsupported by dialog or sound-effects, sometimes enhanced by offstage sound-effects, to move his story along and build suspense. We could use more of his camera-wise kind.

Such other contributions as the set design of Art Directors Day and Ihnen, and the excellent musical score of Alfred Newman, deserve credit, though one could wish that Newman had avoided the temptation to employ one familiar popular song so consistently as a theme during the London sequences.

All told, it is unfortunate that "Man Hunt" will not, from the nature of its subject, be likely to be seen in Germany, for it is the sort of production, photographically and dramatically, that pre-Nazi Germany's cinema artists and technicians most admired and strove to emulate in their own work.

BLOSSOMS IN THE DUST

Metro-Goldwyn-Mayer Production (Technicolor.)

Directors of Photography: Karl Freund, A.S.C., and W. Howard Green, A.S.C.

"Blossoms In The Dust" is, we believe, the first strictly dramatic modern-period production to be made in Technicolor. As such, it gives for the first time an opportunity to compare the photographic merits of Technicolor with those of monochrome, on the sort of production that monochrome can claim as the home grounds. "Blossoms In The Dust" enjoys none of the glamorizing assets usually associated with Technicolor pictures. It is distinctly strong drama; it does not have a single musical or "production" number; it clothes its people in modern costumes, ranging from its beginning laid at the turn of the century down to the present; its locale—Wisconsin and Texas—certainly doesn't provide any exotic foreign atmosphere or lend itself to spectacular sets. In other words, in "Blossoms In The Dust" Technicolor has to prove its photodramatic, as well as pictorial merits.

It is a pleasure to report that it does, completely. After seeing "Blossoms In The Dust" in the Technicolor setting cinematographers Freund and Green have given it, it is virtually impossible to visualize it as it might have been in monochrome. Definitely, without being in the least obtrusive, the simple fact of color, intelligently handled, adds to the dramatic force of the already forceful story.

The production offers some of the most restrained use of color yet seen. Almost without exception, the sets are neutral-toned—soft grays and beiges, relieved by tasteful touches of deeper color in hangings, furniture and the like, and an occasional warmly glowing lampshade. The color-accent is almost entirely on the costumes of the players,

and their natural facial colorings. This puts the visual accent precisely where it should be—on the players; and their performances are such that the accent is not misplaced.

In keeping with the rest of the film's treatment, Freund's and Green's lightings are also restrained. Offhand we're inclined to feel that they varied their mood-lighting treatment considerably less than they would have done had the production been done in black-and-white. It is varied, quite definitely, to key the visual impression to the dramatic needs; but this is done much more subtly than would be expected in a monochrome film. Yet the desired dramatic effect is there, strengthening every factor of the film's many highly emotional scenes.

The photographic treatment of the players is, as might be expected, excellent. It happened to be this reviewer's introduction to Greer Garson: and frankly, after seeing the vibrant impression she made as Technicolored by Freund and Green, we're almost afraid to see her in a black-and-white picture; it would be too much of an anticlimax. The make-up in this film—so often a weak point in Technicolor films, including at least one of the same studio's recent color releases, is distinctly above average.

In a word, "Blossoms In The Dust" is a film that no one interested in the industry's advancingly mature use of color should miss. But—take an extra handkerchief. You'll need it!

UNDERGROUND

Warner Bros.-First National Production.
Director of Photography: Sid Hickox, A.S.C.

It is not by any means too much to say that the strikingly mood-keyed photography Sid Hickox, A.S.C., gives this production is the literal making of the picture. A production like this story of the undercover activities of the patriots who, despite persecution, give voice to the secret anti-Nazi radio in Germany, depends above all for its effectiveness upon a visual presentation that stresses the sombre note of foreboding mystery. And with all due respect to uncommonly fine direction and writing, and the efforts of a brilliant cast, it is the photographic mood imparted through lens and lighting by Sid Hickox, A.S.C., that really lifts "Underground" into the category of dramatically notable films. In the process, it gives Hickox one of the best opportunities for photographic distinction that he has enjoyed in a long time. He rises to it magnificently.

Repeatedly there are scenes and sequences in which only Hickox's ingenuity in lighting and composition keep things from descending, visually at least, to the level of the commonplace. There are, for example, some scenes in the Gestapo

office which are played against a severely plain background, broken only by shadow-patterns his resourcefulness has contrived to cast on the wall — the shadow, in one instance, of a letterpress. In another sequence, that in which the surviving patriots visit retribution on the informer Hoffmann, Hickox has materially strengthened the dramatic effect by playing the entire sequence in almost total darkness, broken only by the rays of a flashlight.

His use of effect-lighting on both sets and people deserves careful attention, too. The special-effects work is praiseworthy, too, though uncredited. The other technical contributions are commendable, though one wonders why, with the wealth of technical directors understood to be used in making the film, the sound-effects department was allowed to dub into the railroad-station sequence a sound-effect track in which engine-bells were heard—when no locomotive in Europe carries a bell!

MOON OVER MIAMI

Twentieth Century-Fox Production
(Technicolor.)

Director of Photography: Ted Tetzlaff, A.S.C., Leon Shamroy, A.S.C. and Allen M. Davey, A.S.C.

This latest in the succession of neatly-Technicolored Twentieth Century-Fox musicals ("Down Argentine Way," "That Night in Rio," etc.) is in many ways the smoothest photographic achievement of the lot. Cinematographers Marley, Shamroy and Davey have handled their work more than capably, bringing both the dramatic action and the many musical and "production" numbers to the screen very effectively.

The film includes an unusual number of interesting location sequences, filmed at various picturesque Florida resorts, and the use of transparency process cinematography to place the principals in these locations is most interesting and in the main, very well done, the possible exception being the diving-bell underwater scenes which looked suspiciously as if a blue-toned black-and-white background-plate had been employed. The preview, incidentally, furnished an interesting comparison between color and black-and-white on the same subject, for the feature was preceded by a sports-subject (black-and-white, of course) in which virtually the identical "puddle-jumping" motorboating action was shown, only to be repeated in Technicolor a short time later in the feature. The color camerawork was definitely an asset.

The photographic treatment of the players was excellent, though some fault could be found with Don Ameche's make-up, which seemed rather poor and none too consistent. The rest of the cast appeared to excellent advantage; and there certainly ought to be a law requiring that Carole Landis be shown only in Technicolor!

"Moon Over Miami" also showed better cooperation between cinematographers,

art directors and costumer than has been the case in some previous color musicals from this studio; there were fewer distracting notes to weaken the cinematographers' efforts toward color-composition. All told, the film is a pleasing example of color, and pleasing entertainment, to boot.

THE BIG STORE

Metro-Goldwyn-Mayer Production.

Director of Photography: Charles Lawton, A.S.C.

It is axiomatic that a zany comedy of the Marx Bros.' variety doesn't give the director of photography much opportunity to do more than crowd in a conservative, high-key lighting and hope for the best. This latest Marxpic is no exception to the rule, but there are several sequences in which cinematographer Lawton has slightly better opportunities than usual in such films. He takes care of them in his accustomed, capable fashion. In spite of the hectic comedy pace set throughout, he also manages to give the production a generally smooth photographic mounting, and to keep his players looking unusually attractive.

Photographically one of the most interesting sequences in the film is the one in which Harpo Marx, unwontedly distinguished in a Louis Seize costume, plays his first harp solo in a corner faced with two full-length mirrors and discovers that instead of a solo it is—thanks to projection process photography—a trio. It is one of the most original comedy applications of trick photography seen in some time, and all concerned deserve credit for it.

On the other hand, there are certain very bad technical flaws in the film. The latter part of the "Sing While You Sell" number, for instance, appears very badly undertimed and is certainly far below either Lawton's or the studio's usual excellent standard. The cutting in the climaxing chase sequence is also very ineptly handled; it is all well enough to assume that fast-paced zany comedy is nonsense and needn't be too logical, but that is not enough excuse to allow for the complete lack of coherence and continuity shown in some of these cuts. They would be deemed inexcusable in an amateur film; what excuse is there, then, for their appearance in a professional one?

KISS THE BOYS GOODBYE

Paramount Production.

Director of Photography: Ted Tetzlaff, A.S.C.

"Kiss The Boys Goodbye" is appropriately Ted Tetzlaff's adieu to the camera before his recent promotion to directing, and a very distinguished salute it is. The real merit of Tetzlaff's photographic contribution is all too likely to be overlooked because of the unusually high entertainment value of the film; but if one can force himself to look beyond the amusing performances and scintillating dialog he will realize that

Tetzlaff's every scene breathes photographic charm and class. His lightings and compositions are technically excellent, and add immeasurably to the delightful atmosphere of the production.

His treatment of the star, Mary Martin, is particularly noteworthy: he has been perhaps more successful than any other cinematographer who has previously photographed her in overcoming the photographic liability of her "apple cheeks." She should certainly rank high among the many who will miss his touch at the camera now he has turned to directing. In one or two shots, her hairdress tends to offset Tetzlaff's achievements with lens and lighting, making her face look overly long; but in general "Kiss The Boys Goodbye" is by long odds this star's most photographically successful appearance to date, and one for which Tetzlaff can take many a bow.

THE BRIDE CAME C.O.D.

Warner Bros.'-First National Production.

Director of Photography: Ernest Haller, A.S.C.

Special Effects by Byron Haskin, A.S.C., and Rex Wimpy, A.S.C.

Aerial Cinematography by Elmer G. Dyer, A.S.C.

That this reviewer considers "The Bride Came C.O.D." an excellently photographed picture is no fault of the people who arranged the preview for Warner Bros. The preview was held in a theatre, and no adequate preparations seem to have been made for the press, so that as a result the people who came there for the sole purpose of passing judgment on the merits of the film were forced to take seats close to the screen and at the side of the house, from which it was impossible to judge the visual aspects of the picture fairly.

However, even so director of photography Ernest Haller, A.S.C., appears to have done a really excellent piece of work. We've an idea that the players, if they could have been seen from a proper angle, would have appeared very favorably; even from the distorted viewpoint they seemed excellently photographed. Since the film was played throughout for comedy, Haller didn't, naturally, have the opportunities for mood-lighting that he has had on previous Bette Davis vehicles, but what opportunities he had, he made full use of. He has a number of really interesting effect-lightings, especially in the mine sequence, and he makes many of the ghost town interior scenes highly atmospheric and pictorial.

The special-process work of Haskin and Wimpy is excellent, especially in the scenes in which Cagney and Bette Davis stage their battle in the plane, and foreground action, background action and the rest have to be unusually closely coordinated.

The uncredited aerial scenes, including some excellent infra-red night-effects, by Elmer Dyer, A.S.C., are excellent, as are the several other infra-red night sequences.

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"SYNCHRO-SUNLIGHT"

Movies With Reflectors

By GAETANO GAUDIO, A.S.C.

DURING the last few years the manufacturers of flash synchronizers have shown the still photographers how to improve their pictures by using a synchronized flash to lighten up the shadow-side of faces in exterior shots. And frequently I've heard amateur movie-makers, looking at their films, loudly wish they had some means of making "synchro-sunlight" movies.

Well—they have! Of course you can't synchronize flashbulbs with a 16mm. or 8mm. camera making its exposures at the rate of 16 or more per second. But you can get the same effect by using a reflector to cast a beam of reflected sunlight in to lighten up those shadows. Professional cinematographers have been doing it for more than thirty years, and today a professional cinematographer would no more think of going out to shoot exterior scenes without taking reflectors (or "booster" lights, which serve the same purpose) than he would think of starting out without his cam-

era or film-magazines. And since reflectors are not only essential, but easy to make and use, there's no earthly reason why the serious amateur filmer shouldn't use them, too.

Any good-sized surface that will reflect light *can* in a pinch be used as a reflector. When Clyde DeVinna, A.S.C., was down in Africa a few years ago, for example, and came upon a shot that had to be gotten right then "or else—" he improvised a pair of reflectors by borrowing the leading lady's bedsheets. But even the most enthusiastic movie-making wives have objections to borrowing the family linen for such uses in home movies, so I wouldn't recommend this except in a real emergency. However, a projection screen—especially the silver-surfaced ones many filmers have left over from the days when they used the old Kodacolor process—makes an excellent emergency reflector.

While on this subject, though, one word of caution: don't use a mirror for

a reflector; it reflects too sharp a beam of light and will only give an unnatural effect.

If you want to make up some real, studio-type reflectors, you can do it easily enough. Get yourself several pieces of plywood, each about three feet long and eighteen inches wide. Take a pair of these and hinge them together so that when closed, they fold together like a book, and when open they form a flat surface three feet square.

You can coat this flat reflecting surface in a number of different ways. Each type of coating will make a reflector of different reflecting power. To get what we call a "hard" reflector—one that casts a strong beam almost like a spotlight—cement flattened sheets of tinfoil to the reflecting surface. The tinfoil wrappings of roll-film, chocolate bars, or cigarette packages, if carefully smoothed out, will do excellently for this.

If you want a reflector that will give you a softer and more diffused beam, spray the reflecting surface with aluminum or gilt paint. The gold reflector gives a warm light which has something the effect of a light yellow filter on the face, and is especially easy on the actor's eyes; but its ruddy light is of no use in Kodachrome. The silver-surfaced reflector throws back a clear daylight-white light, and is much better for color-filming, though not quite so easy to face.

Finally, if you want an extremely soft reflector, coat your reflecting area with a flat matte-white paint. This sort of reflector throws such a soft light that it doesn't give the obvious "he-used-a-reflector" effect; but it is none the less very helpful in lightening up shadows.

Now in most instances where I've seen amateur filmers using reflectors, I've noticed they go rather badly wrong in one respect, or rather, they use the reflector-techniques which we in Hollywood abandoned as unnatural a good many years ago but which, I suppose, seem new and novel to many photographic writers whose ideas come from "text-



Making the photos shown on opposite page; note use of reflectors.



Faith Dorn, Warner starlet, illustrates effects without (left) and with reflectors (right). Photos by Bert Longworth. On opposite page, the author is shown filming a scene from "The Great Lie"; note position of reflectors.

books" on cinematography published ten, twenty or thirty years ago rather than from practical, modern production experience.

This is that they place their reflectors on the ground, so that they throw their light back and *upward* at the actors. Whether the light comes from a lamp or from a reflector, lighting from below almost always produces an unnatural effect, for we are accustomed to natural light which comes from above, and we subconsciously feel that lighting from any other angle is unnatural.

So while we occasionally use reflectors placed on the ground, studio cinematographers much more generally place their reflectors at a higher level, so that the reflected light strikes the subject either from face-level or slightly above it, as the situation may require. At first, we simply placed our reflectors on "parallels"—square wooden platforms three, four, six or more feet high. But lately we've found it more convenient to mount our reflectors on old lamp-stands, which can be adjusted to any height or angle.

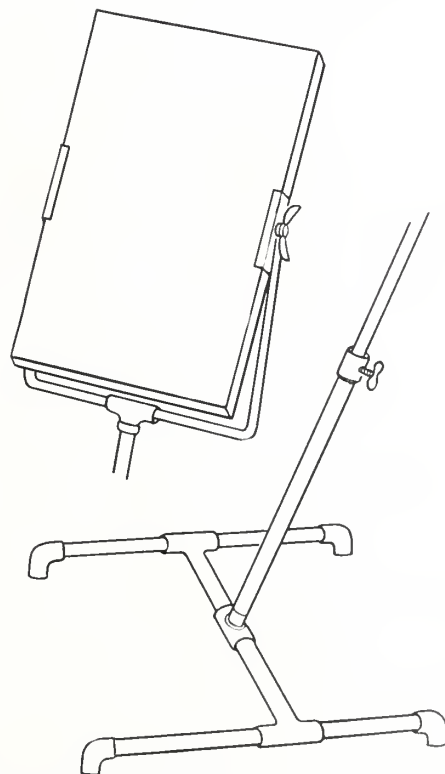
Now the average amateur movie-maker seldom has enough new standards for his lamps—let alone discarded ones—so this particular solution is rather out of the question for amateur use. Sometimes an old tripod can be pressed into service, of course, but even this is an exception rather than the rule.

But it is easy enough to make a simple, adjustable stand which can do double duty, carrying reflectors when you're shooting outdoors, and clamp-on Photo-flood units when you're filming interiors. To begin with, get a straight piece of inch-and-a-half iron pipe, three feet long, from your plumber. To one end of this attach a plumber's Tee connection, with your long pipe screwed into the bottom of the Tee. From each of the other openings of the Tee, extend a one-foot length of pipe, putting another Tee at the end of each of these. In each of these screw another one-foot length of pipe, and at the ends of these put 90-degree elbow sections, as shown

in the sketch. This will give you an H-shaped base (the 90-degree elbows form "feet") with the three-foot length of pipe projecting upward from it.

At the top of this upright provide a set-screw, preferably fitted with a wing-bolt so you can tighten or loosen it without a wrench.

Now get a sturdy metal rod or a section of smaller-diameter pipe of the



right size to slide inside the upright pipe, and three or four feet long. It should be of such diameter that it will slide up and down freely, but big enough so the set-screw will lock it tightly in place.

At the top of this you can either fit another Tee, or one of the caps plumbers

and gas-fitters use to cap off a pipe. To this, bolt or weld a piece of sturdy strap-iron slightly over six feet long. Bend the tips of this bar inward about 20 inches from each end, so that you have a very wide U-shaped clamp. At the ends of the U, place wing-bolt clamps which will hold your reflector between them.

By adjusting these clamps, you can swing the reflector vertically to any desired angle, locking it in place by tightening the clamps. By loosening the set-screw on the upright, you can swing the reflector in a horizontal arc, and adjust it to any desired height. In this way you get the equivalent of our lamp-stand reflector supports, and you can place your reflector at any height, and at any angle you wish. My suggestions as to using inch-and-a-half pipe for the base of the stand may seem rather over-large and bulky: but you want weight, spread and bulk there. Otherwise, if you are shooting on a breezy day the wind might catch the sail-like spread of your reflector and topple it over.

Now that you have your reflectors, the next thing is how to use them for the best effect!

The simplest and most obvious use of a reflector is to lighten up the shadow-side of faces when you're shooting in a cross-light. For this, a fairly soft reflector is usually best—the type made by spraying aluminum paint onto the reflecting surface. Place the reflector fairly well back from the subject, so you will still get an effect of shadow, but an "open," detailed one rather than sooty-black underexposure. And have the reflector about face-high for most shots. Occasionally you may find you'll get better results if it is even a bit higher, while once in a while, as in photographing people in very broad-brimmed hats, you may have to come lower to get the light in where it's needed.

You can use much the same technique when working in a back-light. Only in this case you may want two reflectors, one on each side of the face, and one

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Let Your Mistakes Teach You!

By SID HICKOX, A.S.C.

AN outstanding difference between the professional and the amateur in cinematography is that the professional never "knows it all." He approaches every scene with a realization that it is likely to teach him something new about cinematography, no matter how long he has been at it, or how routine that scene might seem. And he can learn as much from his failures as from his successes—sometimes a good deal more.

Those of us who shoot 16mm. or 8mm. movies as our spare-time hobby have learned, too, that this business of learning from each scene isn't by any means restricted exclusively to 35mm. professional work. Quite the reverse! A modern Director of Photography has a carefully-trained operative crew to handle the mechanical work of running his studio camera, and when he gets his hands on his own substandard cinebox, he is likely to learn as many new things as any amateur.

For example, several years ago I bought myself a 16mm. camera so that I could make movie records of my vacation-trips in Kodachrome. And one of the first things I learned as I screened my films was that amateurs haven't any monopoly on bad panning. In the studio, you have a big, impressive-looking sound camera that weighs several hundred pounds, mounted on a precision-built tripod designed to give smooth pans. But when you hold a little 16mm. camera in your hands and squint through its finder, somehow or other you get an entirely different perspective on panning. And the impression you get looking through that finder is entirely different from the jolt you get when you see your jerky, over-fast pan unwind on the screen!

To be brutally revealing, I thought when I was making my scenes that I was doing a lovely job of making slow, smooth pans. But when I saw the results on the screen, I was ashamed of myself, for my pans were much too fast, and none too smooth, either. But I made myself run and re-run those

reels, to see just how much too fast my pans were, and figure out a way to eliminate that fault the next time I went out with my Filmo.

I found they were, on the average, about 50% faster than they ought to be. Since that was the case, it was easy enough to find a remedy that has worked to perfection ever since. I simply made it a practice to speed the camera up from the usual 16 frames per second to 24-frame speed whenever I make a panning shot. The result is perfect.

This same idea can cure most of the ordinary bad panning you see in so many home movies. Of course, your pans may not be a mere 50% too fast; but in that case, you can simply take advantage of the other slow-motion speeds the manufacturer has given you, and shoot your panning scenes at 32 or 48-frame speeds, whichever may be required to slow your panning down to the right speed. I'll admit I've seen a few ultra-horrible examples which were so much too fast that even 64 frames per second could hardly slow them down enough to make the shot pleasing—but that, as Kipling says, is another story!

Errors in exposure can often be instructive if you study your photographic failures on the screen. This is especially true if you use a meter—and still miss on an occasional scene. Nine times out of ten, you will find on studying the missed scene, that it contains a clue to just how you used your meter wrongly. For example, suppose you have a shot of a pretty girl in a light-colored dress, standing in front of a background of heavily-shaded greenery, and find the girl's face so badly overexposed you can't make out the details clearly. What have you done that was wrong?

Study that scene on the screen a few times, and you will see that the shady, dark-toned area was a good deal bigger than the highlight-area represented by the girl in her light dress. You used your meter all right—but it naturally gave you an averaged-up ex-

posure reading of everything in the field. And since the shaded area was so much bigger than the light-toned area in the picture, the meter made you expose for that. Actually, of course, the girl was the most important part of your picture, and you should have keyed your exposure on her, letting the less important background go however it might.

The answer there would be to come in closer with your meter and take your reading, not just on the overall expanse of the scene, but upon the most important part of it—in this case, the light-clad girl—so you would get the correct exposure for that most important element of your scene.

In much the same way, we'll often bring home shots in which the people we're photographing blend too closely into the background. A little study on the screen will show you what happened: you shot, perhaps, a person dressed in light-colored clothes against a light-toned background, or one in dark clothes against a photographically dark-toned background. If you will think back to the time and place you made the shot, you will usually find that by changing the camera-angle only a little bit, you could have managed things so you got some tonal contrast between your subject and the background—shooting the bright-clad girl against a neutral or dark-toned background, and the dark-clad people against a lighter or more brightly-illuminated one.

There's another pair of very common movie mistakes which show up all too often in shots you'd like to discard. One of them is the scene in which you've filmed some friend standing stock-still and grinning embarrassedly into the camera. Its companion is the shot of a playful friend who clowns exaggeratedly, maybe imitating Mischa Auer's famous monkey-business, or Clark Gable's "It Happened One Night" ride-thumbing—and looking very foolish doing it. But if as you screen those shots, you give a thought to the surroundings when you made them, you'll see—if you look hard enough—they key to what's wrong with those scenes, and a hint as to how to avoid shots like that in the future. The remedy's simple enough: just give people something natural and definite to do! Then they won't have any opportunity to grow self-conscious. It may be some very simple thing like reading a letter or magazine, looking up to smile at you now and then as you speak to them. It may be helping the wife into or out of the family car. But if you give folks something definite to do when you're filming them, you'll find you'll have fewer of those goggle-eyed shots to throw away.

Another very common trouble is head-people or otherwise misframing scenes as you move in to make closer shots. This is simply because your finder and the camera's lens can't be in the same position, and consequently, though their fields overlap at long-shot distances, when you come closer—say six or eight

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FULLY lip-synchronized talking pictures are still rather out of reach for most home filers, but sound in the form of musical accompaniment, sound-effects and narration can easily be added to any home movie, 16mm. or 8mm. In its simplest form, it needn't cost much, either, for there are several ways sound can be added to a silent picture, ranging from the very inexpensive non-synchronous method up to the best professionally-recorded 16mm. sound-on-Kodachrome, the finest in substandard sound today. So why not plan your vacation-movie for sound, suiting the method to your individual needs?

The simplest way of adding sound to home movies is to use a non-synchronous dual-turntable record-reproducing outfit to provide a musical background, while you speak your narrative through a microphone. If you have an outfit like this made up professionally, it should cost you from \$85 to \$200; but you can assemble your own for considerably less.

One of the neatest outfits of this type I've seen was one built by a California cineamateur. He simply bought himself two of the inexpensive record-players used for playing phonograph records through a radio's amplifier. He installed these side-by-side in an ordinary suitcase, and provided for wiring them to the input stage of an inexpensive portable amplifier which, in turn, could be connected to a loudspeaker he fitted into an overnight-case. A third input on the amplifier permitted him to connect a microphone. The whole thing shouldn't have cost him more than about \$60—probably less, if he was frugal enough to shop around a bit for traded-in record-players, used suitcases, and the like.

Another chap, assembling a similar outfit, picked up the amplifying unit from a nickel-in-the-slot "juke-box" record-player which had been replaced by a newer model—and with almost no investment, obtained a high-quality amplifier with enough power to fill any auditorium he might choose to use.

A few words of caution are necessary if you're planning to build an outfit of this nature. First of all, be sure and have an individual "fader" or volume-control for each turntable, and a separate one for the mike. This way, you can lap-dissolve smoothly from one record to the next, and fade your narration in and out without interfering with the music. Secondly, I'd suggest having your amplifier in a separate case of its own, so it can be put conveniently at some distance away from the turntables; don't, at any rate, put the amplifier in the turntable-case with the tubes projecting from the case: you'll only have to burn your wrist once on a hot tube, changing records in the dark, to know the reason for this! Finally, plan your speaker-case so you can provide as large a baffle as possible; it will improve your volume and sound-quality enormously.

Using an outfit like this is preferably a two-man job—one person to keep the musical score going smoothing (using



Plan Your Movies for Sound

By WILLIAM STULL, A.S.C.

commercial phonograph-records) and the other to read or speak the narration through the mike.

If you want sound-effects, add a third turntable so that you can keep your recorded musical score flowing smoothly, while the third turntable plays the sound-effects. RCA-Victor and several commercial recording companies make sound-effects records which, since they are recorded at 78 r.p.m., can be played on any home phonograph or record-player. Among the effects obtainable are auto horns; a variety of bells and whistles; sirens; dog barking; baby crying; airplanes taking off and flying; autos starting and running, approaching and receding; traffic noises; cheers, mumbling and crowd-noises; trains starting, stopping, whistling and blowing off steam; thunder; rain and wind-noises; storms; sea effects, running brook, and water lapping against a boat; artillery and machine-gun fire; bugle-calls; horses' hoofs on various surfaces; foot-steps—even in mud; orchestras tuning up; applause, and many others which meet the needs of almost any conceivable home-movie situation.

The drawback of this method of adding sound to a home film is of course that each showing is an individual performance on the sound end—changing records, watching for cues, reading the narration, and so on. But with a little added equipment and outlay this can be eliminated. During the past year at least two firms have developed electrical synchronizing units by which almost any

16mm. or 8mm. projector can be synchronized with a phonograph or record-player. Using these synchro-sound units, you can build up your musical score and sound-effects from commercial recordings, as outlined, and read or speak your narration into a microphone. But you only do it *once*, for you record the whole thing on a disc record which is made in exact synchronism with the film, and thereafter played in electrically-controlled synchronism with the projector.

With this system you can use records playing at either the standard phonograph speed of 78 r.p.m. or the transcription speed of 33⅓ r.p.m. The latter is preferable, since it gives considerably longer playing-time; depending on how the record is cut, you can get the sound for a whole 400-foot 16mm. reel or a 200-foot 8mm. reel on a single side of one 13½-inch or 16-inch disc. If you care to, you can do the recording yourself—and have a lot of fun doing it; if the sound bug hasn't bitten you, you can find recording studios in most cities equipped to do your recording for you. In some instances, they may have the necessary synchronizing equipment already installed; in others, you may have to fit your synchronizer to their recorders.

This system, obviously, has but one shortcoming: that is that like the early disc-recorded professional talkies, a break in the film can throw things completely out of sync. To get around this problem, you'll have to do what the pro-

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Exposing Amateur Film For Professional Quality

By P. C. SMETHURST

EVERYONE who takes amateur films must have an idea of what constitutes "Professional quality" at the back of his mind, and just because so few of one's own films approach this standard it is only too easy to be persuaded that there is something inherently lacking in substandard films. Such a conclusion is most unfair: the fact is that very few of us have ever sat down and thought out just what we mean when we use the word quality, and every right-minded person will agree that unless we know what we want to get, it will be out of the question to devise ways and means of getting it. These notes are consequently intended to show that image quality can be defined quite simply and easily on a basis of film conventions, and to explain how this standard of quality can be reached by anyone who is prepared to use certain simple methods. There is no need for a beginner to consider the subject too complicated for him—the whole business is so simple that all the really clever people looked for complications where none existed. The principles described here have been tested time after time, and there is no question but that they work in practice.

A reasonably critical study of professional films at the nearest cinema will convince anyone that there are two kinds of image employed. The first is the ordinary standard image, which is used for normal shots, and the other is the special-effect, which is used deliberately to produce heightened emotional tension among the audience. Now these two types of image must be

handled differently in the camera, for obvious reasons, but since the average amateur is going to be much more interested in the ordinary standard image than in special effects, the former is clearly the more important. Then again, special effects vary so much with the intention of the director and cameraman that there is nothing standard about them. We shall, therefore, consider the standard image as a basis, and then find out how special effects can be turned out at will as special cases of our standard.

In considering the actual quality of a screen image, too, a little thought shows that two factors are involved—image brightness and image contrast. In motion pictures of the amateur type, image contrast depends entirely on (a) the emulsion characteristic, and (b) the range of tones shown by the original subject filmed, and once the camera has been turned on a scene, nothing on earth can change the contrast of the screen image. This lack of control over contrast makes it clear that if special types of contrast are needed, they must be produced in the camera by filters and similar devices for daylight work, and by the suitable arrangement of lamps in artificial light, but since the whole basis of the cinema is to produce something on the screen which we can mistake for real life, it is clear that contrast should be left as natural as possible in ordinary exposures. Hence we can, on the whole, leave it to itself and only bother about it when it is too small (i.e. with a very flat subject) or too great (i.e. with a very contrasty subject).

Image brightness is quite another

matter. In the ordinary course of events, faces are the most commonly important subjects in a film, and since we have noticed above that the screen image must be as natural as possible, one face appearing in successive shots ought to have the same screen brightness in all of them. If it does not do so, then the audience are going to be worried as to what has happened in the intervening period between the shots. Even where no face appears in one shot, but is shown in the next against the same background, the two shots should receive the same exposure (for it is camera exposure on reversal film which conditions the screen brightness of the various tones), for a change in the brightness value of the background will trouble and puzzle the audience in just the same way as a change in the appearance of a face. It is true, of course, that the human eye does not readily notice small changes in screen brightness, but this only means that we have a reasonable limit of tolerance in practical exposure.

All these remarks boil down to the fact that we want to make face tones match on the screen if our shots are to look natural, and it is the matching of face tones which constitutes a true standard of image quality. If faces are pinned down to have one particular screen brightness, then the darker parts of the scene will fall into their suitable places down the scale of screen brightnesses, and the contrast of the actual subject will be more or less accurately reproduced on the screen.

There are one or two remarkable and apparently paradoxical points which

arise as soon as matched face tones are accepted as a standard of image quality. In reversal film, the exposure is the only factor which changes the values of screen brightness, and those who are familiar with the processing of reversal film will know well enough that unless the faces are matched by camera exposure, the finest processing plant on earth cannot go through the shots one by one and do the work instead. We must therefore rely on our own exposure to be accurate, if we want to match faces, and request the processing plant to give time and temperature treatment without any attempt to alter what we have done.

It is these facts which lead to the paradoxes. Assuming that other things remain equal, a face against black velvet must be given precisely the same exposure as a face against white clouds; a close-up must be given the same exposure as a long-shot; a shot of cloud and sky must have the same exposure as a shot including no sky at all in the picture, and titles with black letters on white ground must have the same exposure as those with white letters on black. Those who are accustomed to accepting the readings of ordinary types of exposure meter as the truth will probably be thoroughly amused at these suggestions, and describe them as ridiculous, but if they wish to get the same quality as they are accustomed to see in feature films they must follow these instructions or fail in the attempt. The joke, in the end, is on the reflected-light exposure meter, for in a natural image a dark object appears dark and a white object white, but the meter readings, applied to the camera, will give a medium grey tone to each. And this is precisely what we do not want.

Anyone who looks closely at a face in ordinary light will know that there are all kinds of lights and shadows chasing over it, so that it is a little puzzling at first to decide just which tone in it should be taken as standard. But by considering that our image standard must be independent of contrast, it is evident that we can only accept the brightest part of a face as a basis for our exposures.

Even here, a further point arises: the brightest points on a face are the brilliant high-lights which appear on the nose and over the cheek-bones, and as the head is turned they move, increase and decrease in brightness, appear and vanish. As it is perfectly natural for these high-lights to flicker, move, and vary in brightness as the head is moved, we evidently cannot take them as a standard brightness value, for they will vary according to the angle at which light reaches the face, and on the angle subtended at the face between the lamps and the camera. *We are thus left with the only remaining tone of the face as a standard: the brightest portion which reflects light diffusely (i.e. like a matt white screen).*

If this tone of the face remains constant in brightness on the screen, the

brilliant high-lights will chase over the face in a perfectly natural way, and if the contrast is strong, the shadows will accordingly appear darker, just as they seem to our eye through the view-finder. Here, then, is the only suitable standard for screen brightness, and it remains to find a method to use it in practice.

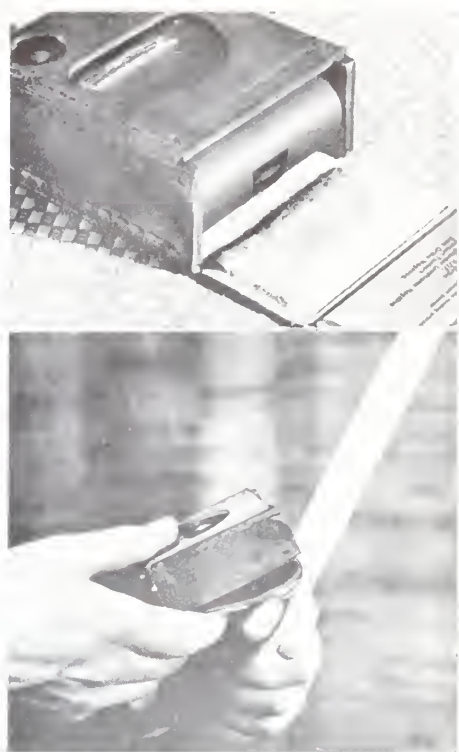
For convenience we call the standard the maximum diffuse face brightness, and the primary difficulty in measuring it lies in the fact that it normally extends over a very small area. Quite apart from this, it takes a good deal of experience to detect just where it lies, and nobody is going to spend some months in training without any results to show for it. It would, perhaps, be possible to use a laboratory photometer to do the work, but as such instruments are very expensive and may weight anything up to twenty pounds with their auxiliary equipment, few practical people are likely to want to have anything to do with them.

There is, luckily, a dodge which can get over these troubles: those of us who remember struggling with algebra at school may call to mind that a complex problem or expression is often quite easy to handle when it is taken to pieces and dealt with bit by bit. In our own trouble, therefore, let us borrow the technique of the illuminating engineer and consider that brightness is split up into three factors: (a) the reflection factor of the face—i.e. the fraction of light reaching it which is reflected back, (b) the intensity of light reaching the face, and (c) the angle at which this light falls.

Leaving (b) and (c) alone for the moment, let us consider (a) only. Any face has a reflection factor which remains constant: whatever the intensity of light reaching it, a certain fraction will be reflected back, and the fraction does not change with a change in light intensity. This is true of any stable surface, and it looks as if it might be possible to get rid of the inconvenience of measuring direct on a face, and to adopt an artificial standard instead.

If a piece of white paper with a matt surface (it must not be shiny or glossy, as we have seen that the diffusely reflecting tones only can be used as standard) is held up beside a face, and examined critically in different intensities of light, it will be found that there is a constant contrast difference between the two. This is because while the face reflects diffusely, say, 30% of the light reaching it, the paper will perhaps reflect 90%, so that the value of paper brightness is always three times that of the face. Thus, by finding the diffuse brightness of the paper, we get a value which has a constant relation to the diffuse face brightness, and if the paper is made conveniently large in size, an ordinary exposure meter can be used to read it, and thus give an exposure value which takes both (a) and (b) above into account.

Nor is it particularly hard to deal with the angle at which the light falls.



Above, Figure 1, showing masking of meter-cel; below, Figure 2, showing how meter and card are held. Picture on opposite page photographed on Agfa Film; even in a shot like this the face-tone is the desired normal.

Taking the simplest case of an exposure in full sun, the paper will show the largest reading on the exposure meter in front of it when the paper itself is at right angles to the direction of the sun, and this actually corresponds to the point on the face where the maximum diffuse brightness appears. By this means, a suitable artificial high-light and an ordinary exposure meter can be used to obtain matched face tones, and the rule for taking the reading is to find the largest stop number (i.e. smallest exposure value) which the combination of meter and artificial highlight can be induced to give in the lighting conditions prevailing.

Once this artificial standard is used, an important advantage results: since we are no longer dependent on the actual brightness of a face, such variations in the latter which may be due to an increase in tan during the first three or four days of a summer holiday will have no effect on the exposure standard, and thus on the standard of image quality. The result is, instead, that the face darkens slightly on the screen as it tans, which is as it should be if a natural effect is required. The artificial high-light makes it possible, in fact, to expose all the year round and know that the images produced will only vary in contrast, but not in the screen brightness of face tones.

Since ordinary exposure meters are intended to work on an average scene, and not on a white card, it is evident that to hold up the meter to the card will not immediately give a camera exposure value which can be used. In summer

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Colors need not be lavishly displayed to make a pleasing color shot, as this scene from "Chad Hanna" illustrates.

Composition and Continuity For Natural-Color Filming

By JAMES A. SHERLOCK,

Vice-President,
Australian Amateur Cine Society.

AFTER experiencing the thrill and novelty of seeing one's colored films projected a few times, the artistically-minded filmsmith will realize that each scene is not quite as good as it might be. It will be seen that most shots, even when correctly exposed and processed, contain too much color and too many contrasts. The serious amateur will soon find that his pictures lack something and that something can only be added by patience, practice and experience with this new branch of photographic reproduction. All he knows about picture composition and lighting for the black-and-white process will have to be modified. He must learn to cultivate an honest personal taste for color and should not accept the opinions of other people, neither should he pretend to admire beauty in color. He must try to understand the hidden mys-

tery of paintings left to us by people who have passed on and are now known as Old Masters. As we learn to appreciate their work, we find that our taste broadens and we are able to see light in paintings which was perceived in Nature by the eyes of genius then revealed by the hands of these Masters.

Color film is almost twice the price of black-and-white film, and because of this most amateurs feel that they must point their color-loaded camera wherever there are brilliant colors. Many world travellers return home with hundreds of feet of flower beds, sunsets and the like which have been filmed because they were brilliant to the eye, and in their enthusiasm to get color forgot that most scenes would have been better if a little taste and discretion had been used. They seem to favor scenes with large juxtaposed areas of pure comple-

mentaries which fight with one another to attract attention, and shock the finer sensibilities in doing so. Their really best shots were most probably obtained from scenes which did not attract the eye by their brilliance.

If the eye is to take pleasure in a scene, the colors should be proportionately balanced, have rhythm and symmetry. No simple laws of color-harmony can be made which will be separated by distinct rules. Two or three colors badly distributed may create divided interest, but differently arranged they may become more effective. The point of interest should receive the strongest color-contrast, and the area of pure color should not be larger than $\frac{1}{4}$ of the picture. The use of contrasts should be shown modestly. They are rarely displayed sensationally by great artists, rather are they introduced quietly, and unless the viewer subjects a picture to close observation these contrasts may not be discovered, yet their effect is very important to the picture.

In black-and-white photography we rely on light, lines and form for our composition. In color-filming we have also to pay attention to color-contrasts and realize that the intensity of a color is increased when it is placed close to its opposite. The whole scene should be in harmony with the subject, and the colors in harmony with each other. Brilliancy of color is not necessarily crude, but with additions and reliefs the skillful colorist can make a scene delightful and our eyes can be led in easy steps from color to color without becoming wearied. It should be noted that the purer a color is, the more it attracts the eye.

The element of proportion is very important in estimating a color-harmony. It may be considered first as the actual quantitative relation of the colors in a harmonious scheme. How much blue of a given value and intensity will balance so much yellow of a given value and intensity. The answer according to the physicist is that when the sum of the two produces gray the proportions are right, but this type of proportion, even if it can be accurately and mathematically determined and measured, must for ordinary purposes be summed up in three proportions which can be applied with the trained eye as the judge.

1. Small areas of advancing colors of given intensity and value require proportionally large areas of receding colors. (Yellow, red and orange tend to advance, while blue, green and violet of equal intensity tend to recede.)

2. Small areas of intense colors of given advance and value require proportionally large areas of dulled colors.

3. Where two or more of the factors making for strength are in the one color, a proportionally larger area of weaker color will be needed to balance its activity and force.

A study of Nature's color-harmonies will enable you to make better and more natural color movies.

If better pictorial value is to be added to natural (?) color films, then a study of the manner Nature, the greatest artist of all, uses in her color harmonies, will prove that she does not recklessly mix her pigments, rather are they delicately chosen from selected parts of the spectrum.

Go up to the mountains and hills into virgin forests where little crystal-clear streams are unspoiled by the hand of man, learn to know and appreciate Nature. She is such a simple, kindly old soul who is quite willing to turn a friendly face and reveal some secrets, to those who love her. When she stages a sunrise, daylight approaches through the blue end of the spectrum till white light is reached about 10 a.m. Then if there are no clouds hiding the sun, this light continues till about 4 o'clock in the afternoon. From then on the light is first tinged with yellow, then orange, till finally as the sun sinks, reds slowly dissolve to greys.

Nature does not suddenly jump from one light-condition to another. She does it in slow, even manner and the color filmsmith must be careful that his picture does not accentuate the changing light-conditions by having his film cut from an early morning shot to a late afternoon scene.

If it is desirable to correctly record the colors of an object as normally seen in daylight and not to indicate the time of day, it would be necessary to photograph such object under midday sunlight, for the reason that the colors in most color film are balanced for average midday sunlight, but for all practical purposes the hours between 10 a.m. and 4 p.m. on a cloudless day are admirable.

Unfortunately film-latitude in color-photography is very limited, which fact accounts for most of its unnatural reproductions. Therefore the color-worker must be particularly careful measuring the correct exposure for each scene.

All color-photography attempts to reproduce color as the human eye sees it, and the slightest variations in hues are noticed by the eye, which expects various products of Nature to contain particular colors. When an unnatural color is seen, the nervous system is irritated and the optic organ transfers to the brain an unpleasant impulse. This reaction is increased when a person is seated in a dark room and moving colored scenes are appearing on a screen. Care should also be taken to determine whether or not there is too much contrast between highlights and shadows for the color-process to handle.

If the highlights are too brilliant, their colors will be washed out; if the shadows are deep and comprise a large portion of the picture, they will appear muddy while the middle-tones will perhaps photograph normally. Therefore,

if an undistorted and natural rendition is required in an outdoor scene, a camera-angle must be carefully chosen which will avoid the deep contrasts that color-processes are unable to handle. When photographing an interior, lights can be used to brighten the shadows, and if reflectors are used for either exteriors or interiors, they should be surfaced with a flat white or silver paint.

If we study a distant view it will be noticed that a blue or purple haze will supplant detail in objects as they disappear into the distance, particularly if the day is hazy. Sometimes this veil improves the quality of a scene; but when the amateur wishes to record as much detail in the distance as possible, the use of a Kodachrome Haze-filter is recommended. (A pola-screen is often as good or better for this purpose.—Ed.)

The Haze-filter is also used to advantage on dull days or on scenes in shadow, mainly because objects on dull days or scenes in shadow are illuminated by diffused or scattered light and record bluer than is normally seen by the eye. The Haze-filter has the property of absorbing most of this unwanted color. The filter is colorless and does not affect visible light.

The serious amateur should learn to observe the colored world he lives in.

He must learn that a daffodil is not always and exclusively yellow; he will learn that its color is affected by the color of the light falling on it. When this discovery is made, the movie-maker realizes that the lens of a camera does not cover the same area as the eye when it registers a scene, also that objects are affected by the reflected color from other nearby objects. The subconscious mind of the viewer allows for this characteristic when such a scene is beheld, but the field *outside* the limit of the viewfinder is not known by a picture audience. The scene *inside* the viewfinder is the one for the cameraman to observe, as the audience can only judge a scene by its appearance on the screen.

For example, on a cloudless day shadows are blue, for the reason that they receive part of their illumination from the blue sky. This fact is prominent in a snow scene and is more noticeable if blue shadows appear without an area of blue sky to account for them.

Most color-processes have the peculiarity of stressing certain colors and holding back others. Kodachrome film, for example, accentuates reds, and when correctly exposed and processed has the peculiarity of making most scenes appear too brilliant. Unless the movie-

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Making Movies In A Summer Camp

By A. L. GILKS, A.S.C.

EVERY summer tens of thousands of boys and girls—to say nothing of thousands of college-age counsellors—trek off to lakes and mountains for a carefree vacation in summer camps. Some of them may spend only two or three weeks in camp; others spend the entire summer. But all of them carry cameras of some sort, and an increasing number each year go a-camping armed with a 16mm. or 8mm. movie-camera.

And why not?—The activities of a summer camp—any camp—offer some of the finest picture possibilities anyone could wish. If you look for it, you can find the raw material for almost any kind of a film in camp, waiting for someone to see and photograph it. But if you want to come home with a really good picture, you must be constantly on the alert to see and capture every filmic opportunity! You've got to plan beforehand what you're going to film, and get it on film while the filming's good—before the novelty of the new surroundings wears off.

Probably the most popular type of summer-camp film is what might be called a first person singular photographic diary—an out-and-out record of what one person saw and did during his summer in camp. This can best be presented, I think, if you can plan and shoot it as a complete record of some one person's camping season. We like to comment on the difference between a boy or girl camper as he enters camp, thin, nervous, and rather pale from a winter in school, and the appearance of the same boy a few weeks later, after his season in the open air—filled out, bronzed, probably a bit unkempt as to hair, and maybe ornamented with a raffish-looking bandage or two as the result of some minor scratch or tumble. Why not show it on the screen—and with it, a moving record of at least the outstanding experiences of the outdoor life that worked the change—?

The natural starting-point for such a picture is to pick up the youngster as his parents deposit him on train or bus to go to his camp, and you can end up with his return, looking so greatly different. Between, you can build a record of the camp season; not necessarily "staging" much, if any, of the action, but always keeping that particular youngster pretty well the center of action. You can show what he does,

who he meets, where he goes and what he learns. When these shots are properly put together and titled, you're very likely to have a pretty comprehensive story of the camping season.

Each camp has its own particular specialties, which should occupy a major part of the footage. Some, for instance, tend rather to specialize in aquatic events—teaching every camper to swim, to row, to paddle a canoe, to sail, and even sometimes to row in a collegiate-type shell. There are big "water sports" days, with swimming and diving contests, obstacle-races, canoe-tilts, and the like, which simply demand filming. Other camps make a specialty of camping parties by foot, by boat or horseback to outlying localities where the campers can spend several days really "roughing it," sleeping in the open, cooking their own flapjacks, and in general living the life of the wild. Others specialize in woodcraft, Indian-style; others in such more civilized pursuits as music (did you see Paramount's "There's Magic In Music"—?), dramatics, or dancing. In whichever one of these may be your camp's specialty lies the key to the dramatic highlight of your picture: let the whole "story" of your record-film build up to a detailed coverage of this specialty, capping it only with the return of the camper to his or her home at the season's end.

But there are innumerable other approaches to summer-camp filming. For example, there are endless subjects for making good documentary films. What's more, making them can be worked in as

a constructive part of the camp's activities. In a camp where woodcraft and Indian lore are paramount interests, you can find material for many a documentary—the right and wrong of different methods of fire-making; following and blazing trails; the making of Indian bead or feather-work, or even a bow and arrows. Such subjects can be made into a neat little story, with, say, a counsellor or guide showing an individual or a group of campers how to do things, with perhaps one youngster showing off all the wrong methods, and being carefully taught the correct procedure.

Most camps, too, have naturalists, and with their help really instructive films of the wild life of the region—the birds and wild animals, even the insects, the flowers or plants—can be made. I've known of some camps in which such photographic study was encouraged by prizes or trophies for the best photographic nature-studies—and surely a well-made movie would be a strong contender for such honors.

In the Western states, many camps stress the cowboy life, with saddle trips to camping spots along inaccessible mountain trails. And what could be more interesting than to make a film showing the details of such a trip—how to load a pack-horse; throwing a diamond hitch; hobbling the animals at overnight stopping places, and of course the secrets of camp cookery in the open?

Most camps, too, make a feature of impromptu dramatics. Some I've known, in addition to the usual nightly high-

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Photographed on Agfa film

AMONG THE MOVIE CLUBS

Colorado Springs Organizes

On May 26th an informal get-together of amateur movie enthusiasts in Colorado Springs resulted in the formation of the Colorado Springs Cinema Club, with a membership of both 8mm. and 16mm. camera-users. The first meeting was intended more or less as an experiment, to see how many amateurs in that locality were seriously interested in forming a club. The result far exceeded expectations, as 22 amateurs responded. A temporary organization was formed, and two officers elected—Earl Cochran, President, and Roy Thomas, Secretary-treasurer.

The initial program included a showing of 16mm. sound-films on a new-model Eastman sound projector loaned through the courtesy of Shewmaker's Camera Shop; several reels of members' films which were screened and constructively criticized; and a discussion of various types of movie cameras and their operation.

In all, the Colorado Springs Cinema Club got off to a good start, and all amateur filmmakers in that area are invited to acquaint themselves with the club. The cooperation of older and longer-established clubs in other parts of the country will be appreciated, and any of their members vacationing in Colorado will find a hearty welcome at the new Club's meetings.

EARL COCHRAN, President.

Big Show for Octo-Cine Guild

On June 12th the Minneapolis Octo-Cine Guild, the twin cities' exclusively 8mm. organization, presented its Second Annual public screening before an audience of 300 people in a theatre-size auditorium. Eastman "70" projectors, "souped up" as to projection-lenses and fitted with 750-Watt lamps were used to project a 9x12 foot picture. Projection was in charge of Allen Herber, with M. N. Fleming handling sound from recordings. The program included "Octo-Cine Pot-Shots," including "The Big Top Goes Up" by K. V. Knutson; "Mardi Gras," by W. A. Shimp; "Culinary Arts," by H. L. Asp; "On Point," by R. D. Armstrong; "Robbinsdale Fire" by H. L. Asp; "Yuletide Skates," by Dr. C. A. Lindahl; "Wings," by G. R. Morton; "Hobbies," by W. F. Ohnstein, Jr.; "National Champs—1940," by A. E. Herber; "A Girl and Her Dog," by A. E. Herber, and "Floral Fantasy," by K. V. Knutson. The feature of the evening was "Elixir Invisibilis," by Dr. C. A. Lindahl, followed by "A Bit of Colorful America," filmed by Fred Murphy and narrated by the filmer. This is believed to be one of the biggest-screen presentations of 8mm. yet attempted.

A. F. BUCKLES, Secretary.



Left: Officers of Southern California's movie clubs at May meeting of the Los Angeles 8mm. Club. Included are H. P. Carnahan, President of the La Casa Movie Makers of Alhambra; President Hoyt of the Inglewood Movie Club; President Wm. Hight and Secretary Shandler of the Los Angeles Cinema Club; President Fullbright of the Whittier Movie Club; Messrs. Rittenhouse, Plank and Hall of the Pasadena Movie Club; President Heinz of the Southwest Movie Club; President Callow of the Southern Cinema Club; Secretary Howard Timmons of the Highland Park Movie Club; Secretary Johnson of the Snicker-Flicker Club of Glendale; Mrs. Mildred Caldwell, President, Ray Fosholdt, Secretary, and members Phillips and Ward of the Long Beach Cinema Club; and President A. J. Zeman, Secretary Betty Barney and temporary chairman B. M. Bevans of the Los Angeles 8mm. Club. At right is seen the newly-organized Colorado Springs, Colo., Cinema Club, at the group's first meeting.

Long Beach Studies Trailers and Lighting

The June 4th meeting of the Long Beach Cinema Club took the form of a bus-trip to the Hollywood studios of the National Screen Service where movie "trailers" are made. Frank Glennow escorted the party through the plant and explained how trailers and titles are made. At the June 18th meeting Mr. Mac Thoen of MGM Studios gave a demonstration of lighting. Two scenes from the Club's coming production were filmed, using Valerie SoRelle, Clarence Aldrich and Mr. and Mrs. Pat Rafferty as actors. A complete record of the lightings used was made for future reference.

RAYMOND FOSHOLDT, Secretary.

Washington S.A.C. Discusses "Art of Omission"

The June meeting of the Washington Society of Amateur Cinematographers featured a paper on "The Art of Leaving Out" by Senior Vice-President Dr. L. B. Olmstead. He placed special stress on the necessity of selecting the background as an important medium in good picture-making, and the importance of leaving out everything except the thing being photographed. He pointed out that a course of study embracing many years is necessary in such professions as law, medicine, engineering, etc., and that it is just as necessary to study and experiment for many years in order to become proficient in picture-making.

Second Vice-President Everett Marsh demonstrated his dual turntable sound outfit and the reconstruction job he had accomplished on a 1923 Model A Kodascope, adding a cooling system and a 500-Watt globe. He screened his color film "The Nations of the World at the Fair," convincingly demonstrating the

efficiency of his rebuilt projector. Former Secretary Wilbur Comings and present Secretary Theodore Sarchen demonstrated other gadgets. Highlight of the evening was the projection of Kodachrome stills by Secretary Milton Pike of the Washington 8mm. Club. These were unusually beautiful, and demonstrated the value of the "Opticoat" treatment of his lenses. The Society's new 59x72 DaLite screen, recently acquired through the proceeds of the auction previously reported, was first used at this meeting. The Society decided to suspend meetings during the summer months, due to the heat in Washington, and will resume its program the third Monday in September.

JOHN T. CHEDESTER, President.

St. Paul Banquets

The St. Paul Amateur Movie Makers held their Fifth Annual Banquet on June 3rd, with Walter Gayman in charge of arrangements and Harold Lains as toastmaster. Feature of the evening was the awarding of prizes to the winners in the Club's annual "Best Film" contest and the bestowal of the Harmon Trophy.

President Oliver presented the prizes to the winners, as follows: Plaque to Victor Engquist for "Western Vacation," (8mm. color); plaque to Irving Rice for "South of the Border" (16mm. color); Honorable Mention to Harold Smith for his black-and-white film "S. S. Capital." The L. L. Harmon Trophy was won by Miss Agnes Marx for "The Green Album," 16mm. color. Judges were Ormal Sprungman of the Minneapolis Cine Club and Honorary Member Wm. S. Yale, Chief Cinematographer of the Great Northern Railway. The program was completed with a showing of the prize-winning films.

HERE'S HOW

8MM. Enlargements

Is it possible to make still-picture enlargements from single frames of 8mm. film? If so, please tell me how to do it.

Richard Blake,
Pittsburgh.

There are several ways in which 8mm. frames can be "blown up" for still-picture enlargements. Some cineamateurs have built themselves excellent enlarging devices which they use in conjunction with their projectors. A light-tight hood of appropriate proportions and shaped like the bellows of a still-camera is made, with the small end fitted to the projector's lens, and the large end carrying either the film-carrying mechanism of a discarded vest-pocket sized roll film camera or preferably a means for holding a vest-pocket sized film-pack adapter. A dark-slide like that of a still-camera plateholder is in either event placed directly before the film upon which the copy-negative is made. The front surface of this is painted white, and serves as a focusing screen; a light-tight trap-door in the hood permits watching the focus.

In use, the condensing-lens is removed from the projector, to bring the concentration of light and hence the exposure down to usable proportions. The projector's image is focused on the white focusing area, and the safety-shutter either removed or locked open. Then the focusing trap is closed, preventing any light but that forming the projected image from reaching the film, and the exposure made by removing and replacing the slide.

Eight millimeter frame enlargements can also be made with the Kodak 16mm. enlarger if two strips of 8mm. film are placed in the aperture side-by-side, so that they cover the opening completely. This will give two quarter-size frame enlargements on the enlarged negative; though these are smaller than those obtained with 16mm. in the same device, they can, if well made and given fine-grain development, be enlarged to reasonable snapshot size.

We understand that at least one nationally known manufacturer is preparing shortly to bring out an enlarging device exclusively for 8mm.

Filters for Semi-Ortho Film

I sometimes use various types of inexpensive semi-ortho film for my less important pictures. Recently I made a scenic shot using a red filter which has given me lovely results on the costlier films, and got nothing. What was the reason?

Arthur Kugemann,
Boston.

The semi-ortho film you used was probably sensitive only to the ultra-violet and blue rays, possibly a little into the

greens and yellows. Your red filter cut off all of this light from reaching the film, leaving only the red rays and possibly some orange—to which the film wasn't sensitive. Therefore there was no light left with which to make any exposure at all.

There is a genuine distinction between the semi-ortho emulsions and the genuine orthos: the former are blind to virtually all light except the blue and on it filters are useless, while a true ortho is sensitive at least to the yellow and sometimes a trifle into the orange, and accordingly on it yellow filters may be used. Some emulsions, like Agfa's Plenachrome, while classed as orthos, are really all but panchromatic, and if you give a very generous exposure-increase, permit the use of even fairly heavy orange filters like the Wratten "G."

Fast Films Outdoors

Do you recommend the use of fast films like Eastman Super-XX or Agfa Triple-S Pan for outdoor scenes? If so, what is the advantage and when would you use them?

R. B. Jackson,
Beverly Hills, Calif.

The super-speed films you mention were made primarily for use indoors under artificial light, or under natural light when the illumination was especially poor. However, they can be used quite successfully outdoors if you can control your exposure so as to avoid overexposing them. This can be done with a heavy filter—a Neutral Density filter if you don't want the normal color-values of your scene altered—as such heavy filters will bring the exposure up from the very small stops indicated by the meter-reading (usually around f:22 or f:32, which is smaller than most cine-camera lenses stop down) to openings of f:16 or larger.

Aside from the obvious advantage of making picture-taking possible under extremely adverse lighting conditions, the chief advantage of using a super-speed movie film for normal exterior scenes is that it would permit the use of comparatively heavy filters, even with slow lenses, which might not be practical with slower films, and also the use of extremely small stops, which naturally increase depth of field, contrast and definition, and minimize out-of-focus difficulties. We can't exactly say we recommend the idea, for in most instances normal-speed emulsions will do quite as well and be easier to handle; but it can be done if you wish to.

Ink for Cartooning

I've been trying some experiments in making animated cartoons, but I have trouble in making the ink adhere to my celluloid sheets without running. Do

For many years one of the most important services THE AMERICAN CINEMATOGRAPHER has performed for its readers has been the answering of technical questions about all phases of amateur and professional movie-making. These questions are usually answered by individual letters, to permit going into the necessary detail. However, in response to many requests, we also publish, in abridged form, some of these questions and their answers which we believe may be of interest to other readers. THE EDITOR.

the professionals use some special ink or have they some special trick to make the ink stay in place? Or is a special kind of celluloid used? Please answer in "Here's How."

Henry Alonso,
Dallas, Texas

There's no special trick involved. Most Hollywood cartoon studios use the regular Higgins' Waterproof Black Ink which you can get in any store that sells draftsmen's or artists' supplies. The celluloid generally used is regular Du Pont celluloid, weight .005. The only special trick we can think of is to be sure the "cells" are clean, and not greasy from too much handling.

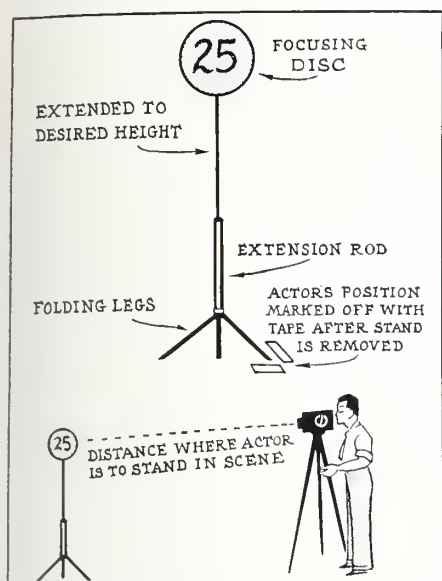
Sunset Exposures

What exposure should I use to film a sunset in Kodachrome. I use a Filmo 8mm. camera with f:3.5 lens.

E. J. Gatchell,
Seattle.

Most sunset-shots are best filmed as silhouettes, with the sinking sun as the brightest part of the scene. The colorings on the clouds are the most important part of the picture. Therefore you don't need to worry much about the exposure on objects in the foreground. Close your lens down to its smallest stop, and shoot, being sure, of course, that the direct rays of the sun don't hit the glass of the lens to give you lens-flare. Under some conditions you can get some very interesting effects if you put your camera on a tripod and shoot the sunset in stop-motion, making single-frame exposures (which on your camera can be done by pressing the release-button up instead of down) at intervals of a few seconds. Just what intervals depends on the conditions; if wind is moving the clouds past quickly, the intervals will have to be short—a few seconds—while if the clouds aren't moving appreciably, they can be longer-spaced. Under such circumstances you would do well to have the exposure-intervals spaced five to ten seconds apart while the sun is well above the horizon, progressively shortening the interval as the sun sinks and apparently accelerates, and then possibly opening up the lens a trifle after the sun has set, to capture the softer colors of the afterglow.

THE IDEA EXCHANGE



"Stand-in" For Actors

Professional actors have understudies known as "stand-ins" to take their places while the camera is being focused and lighting, reflectors, etc., arranged. But the home-movie actor has to "stand-in" for himself—under the hot Photofloods indoors, and in the broiling sun outdoors. Therefore, I am very pleased to submit to "The Idea Exchange" a gadget I've built up and used, which I call a "stand-in stand" for home movies.

An old, used music-stand is employed. Remove the top part which holds the sheet-music, and in its place put a disc some eight or ten inches in diameter, fixing it to the stand's extension-rod in a vertical position. If your camera is fitted with a ground-glass focusing screen, like a Cine-Special, a DA Filmo or one of the magazine-type cameras, paint on this disc a bold pattern of black-and-white lettering or ruled lines upon which you can focus sharply. I've found large white figures on a black background are best.

To use the gadget, the person who is doing the filming opens up the folding legs of the stand and pulls up the extension-rod so that the disc is at the same height as the head of the actor for whom the gadget is "standing in." Then place the "stand-in stand" in the position to be occupied by your actor, and focus your camera on the disc. You can usually "rough in" your lighting with this gadget in place of the actor, too.

When all this has been done, you can mark the position of the gadget on the floor or ground with a couple of strips of tape. Then, when you are ready to shoot, remove the "stand-in stand" and the actor can take his place, positioning himself accurately by standing just behind the tape-strips.

When not in use, the "stand-in" stand

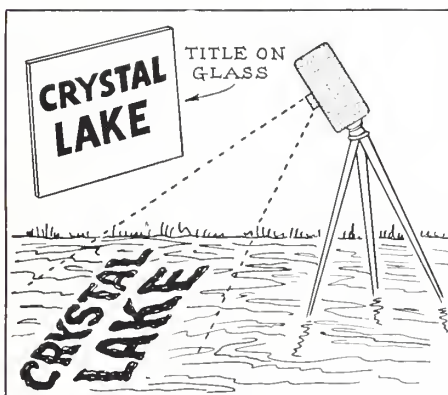
folds up compactly, and can be carried easily around with the tripod.

ROBERT A. HEAVENSTON.

Moving Titles In Water

Looking around recently for an idea for a main title for a film made at a lakeside vacation-resort, I hit on this idea which may be useful to other filmmakers. I lettered my title on a large square of glass, using waterproof oil-paints. Then I laid the glass flat on the bottom of a shallow part of the lake, and shot downward at it, as shown in the sketch, meanwhile gently agitating the water (from beyond camera-range) with a paddle.

The result on the screen proved very interesting. The letters seem to "animate," distorting themselves slowly or rapidly, in straight-lines or curves, according to the way in which the water is agitated or, if the idea is done in a shallow spot in a river or stream, according to the flow of the current.



The idea works best in Kodachrome, with the lettering in paint colored to make an interesting contrast with the coloring of the lake-bottom background. Several variations are of course possible. By using opal, ground or frosted glass, you can get the effect of a clear white background with the moving letters superimposed upon it. By choosing a spot where there are lilies, rushes, or similar water-growths, you can often arrange very interesting, almost three-dimensional compositions. And you can make excellent lap-dissolves by agitating the water very strongly after enough footage of the first title had been shot, removing that glass and replacing it with another, and then shooting as the water, again strongly agitated, calms down. The effect of this on the screen is that the current blurs out the first title, and when it calms down again, the second one is revealed.

PETER SIEGMAN.

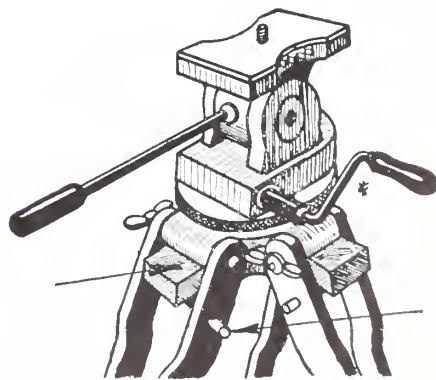
Holding Tripod Steady

Most movie-makers sooner or later suffer the embarrassing accident of having their tripod's legs suddenly spread

THE IDEA EXCHANGE is just what the name implies—the place where 16mm. and 8mm. cinefilmmers can swap moviemaking ideas with the other fellow. The little improvised tricks you used to solve one of your cinemaking problems may be just the answer to something that's perplexing a fellow filmer—and one of his ideas may solve a problem for you.

To help out this exchange, THE AMERICAN CINEMATOGRAPHER invites you to send in descriptions of gadgets, tricks, shortcuts and methods you have used in any phase of home movie work—shooting, editing, titling, projecting, processing, and the like. If possible, send along a photograph or sketch to help make your description more clear to the other fellow. For every idea published in THE IDEA EXCHANGE, we'll give you two projection-reels and cans. Really unusual ideas will receive higher awards. When sending in your idea, let us know whether you shoot 8mm. or 16mm. to facilitate sending you the right equipment.

apart when set up on a polished floor or similar smooth surface like cement pavement, rocks, etc., bringing the camera crashing down. The triangular wooden bases the professionals use to prevent such accidents are pretty cumbersome for amateurs to carry around, and the chain-connectors, etc., sometimes sold as "cures" for this trouble don't always work.



Here's a simple gadget I built to remedy this problem. It is small, inexpensive—and really practical. It enables me to open up my tripod-legs so that they automatically form a perfect equilateral triangle and can't slip or spread out.

I cut out a wooden disc the right size to fit under the top casting of my tripod,

(Continued on Page 355)

HOME MOVIES PREVIEWS



GRIZZLY GULCH

Scenario film, 1750 feet 16mm. black-and-white.

Filmed by Carl Fallberg and Lars Calonius.

Without doubt this is one of the most pretentious amateur-made scenario productions we have screened. In general, it is distinctly above average: it shows a good grasp of story-construction and picture technique; its acting is much better than ordinary, and the detail to which the "period" atmosphere has been maintained is remarkable. Some of the exterior scenes reveal a definite eye for pictorial effect on the part of the cameraman.

But one or two minor criticisms can be offered. In some of the exteriors there is a definite tendency toward underexposure. This, we feel, is probably due to a misreading of the exposure-meter. There were in almost every case prominent white clouds in the sky, and our guess would be that the meter was read tilted too far upward, reading too much on the highly reflective clouds. The use of duped lap-dissolves is not always beneficial, as the duping throws the emulsion in these dissolves on the opposite side of the film from its normal position in the reversal original which comprises most of the footage, accordingly throwing the dissolved scenes momentarily out of focus.

While the continuity is excellent, there is definitely some confusion in the sequence introducing the card-sharper villain who so closely resembles the detective-hero, as to which character is being shown. This should be cleared up, possibly by cutting in the shots of this detective en route to Grizzly Gulch after, instead of before this sequence.

The film, however, is generally excellent and one of the better examples of painstaking amateur production.

ICE FOLLIES OF 1940 and ICE-CAPADES OF 1941

Novelty news-pictorial, 400 feet 16mm. Kodachrome.

Filmed by William E. Hight.

This film—or rather the two shorter films included on the one reel—is an interesting example of a newspicture in which the cinematographer obviously had no control over his exposure or lighting, and had to shoot what he could with what was available.

Cinefilmer Hight has done excellently

BUSINESS MOVIES

BLOSSOM FORTH THE FRUIT

Educational, Documentary, 1150 feet

Kodachrome, silent (sound speed.)

Filmed by William R. Hutchinson.

In presentation, continuity and basic visual treatment, "Blossom Forth the Fruit" is an educational film of better than ordinary merit, dealing with the commercial raising of apples, and produced with the cooperation of some of the highest educational and agrarian authorities in the State of New York. The technical cooperation of these authorities is sufficient to guarantee the authenticity of the film's subject-material, and Hutchinson's cinematic skill makes sure that it is a genuine motion picture rather than a series of still slides or disconnected shots assembled on celluloid. The continuity is very well thought out and executed; the compositions and camera-angles are excellently chosen, and the various sequences tied together with well planned and executed lap-dissolves. In a word, both as a filmed presentation of the facts involved and as a motion picture, "Blossom Forth the Fruit" is a really excellent film.

The many sequences of the various insect pests, blights, scales, etc., which can affect apples are truly outstanding examples of extreme close-up camera-work in Kodachrome. Some of the extreme close-ups of moths, bees, caterpillars and other insects destroying fruit and foliage have seldom been excelled.

From other, more technical viewpoints, however, the film is open to a certain amount of criticism. First and most obvious is the fact that the film needs sound in the form of a well-written narration, interspersed with a musical accompaniment. This, however, we understand is to be added.

Second is the titling. The titles, while well written and attractively, if plainly, laid out, are substantially black-and-white—black lettering on a white or gray-white card. This is by no means suitable for black-and-white, and very unsatisfactory for Kodachrome. It would be far better to have the background of the title-cards a dark color (dark blue is uniformly excellent) with the lettering either in white or a contrasting light color.

There is also a definite tendency toward scanty exposure throughout. A few sequences—such as those in the packing-house—are definitely underex-

posed; others are right on the perilous borderline between correct and underexposure. This is well enough in the original, but it becomes a very serious drawback to a film of which, as in this case, silent or sound Kodachrome duplicates are to be made. It has been the experience not only of this writer, but also of most of the most successful commercial 16mm. Kodachromers, that Kodachrome that is to be used for duping should be somewhat overexposed: a correctly-exposed Kodachrome original will make a fair dupe; an overexposed one will make an ideal dupe; but an underexposed one will not dupe at all satisfactorily. Our suggestion would be that whenever Kodachrome is shot for duping, it should be exposed at a meter-setting one or even two points lower than the normal setting. For example, if one uses a Weston meter and normally exposes Kodachrome with a speed-setting of 8, Kodachrome for duping had best be shot at a speed-setting of 6 or even 5. The same is true of interior scenes in the Farm Bureau office and especially those in the packing-plant. We doubt if these would dupe at all well. Some of these interiors would benefit if they could be greatly over-lighted and the lens stopped down for maximum depth.

with this. He has been able to film this difficult artificial-light subject at the normal 16-frame rate and, especially in the Ice Follies footage, to get a really surprising proportion of adequately-exposed scenes.

Hight's editing and particularly his self-made color titles are excellent.

posed; others are right on the perilous borderline between correct and underexposure. This is well enough in the original, but it becomes a very serious drawback to a film of which, as in this case, silent or sound Kodachrome duplicates are to be made. It has been the experience not only of this writer, but also of most of the most successful commercial 16mm. Kodachromers, that Kodachrome that is to be used for duping should be somewhat overexposed: a correctly-exposed Kodachrome original will make a fair dupe; an overexposed one will make an ideal dupe; but an underexposed one will not dupe at all satisfactorily. Our suggestion would be that whenever Kodachrome is shot for duping, it should be exposed at a meter-setting one or even two points lower than the normal setting. For example, if one uses a Weston meter and normally exposes Kodachrome with a speed-setting of 8, Kodachrome for duping had best be shot at a speed-setting of 6 or even 5. The same is true of interior scenes in the Farm Bureau office and especially those in the packing-plant. We doubt if these would dupe at all well. Some of these interiors would benefit if they could be greatly over-lighted and the lens stopped down for maximum depth.

From the editing viewpoint, the major fault seems to be that the film really contains two separate pictures. It shows the growing of apples from the start in the spring to the shipment to the consumer. Part of this story is all too familiar to the apple-grower: for his benefit there should be even more detailed footage on the various sprays, what goes into them and the effects of using and not using them. For the general public, there is too much footage devoted to spraying, and certainly too much devoted to showing the various pests, parasites and diseases of apples. The film could very easily be divided into two separate 600-foot reels, one for strictly professional showing, the other for the consuming public.

Some shortening could be done in the opening sequence of the tree-pruning, in the various sequences dealing with spraying, and so on. We feel, too, that a more detailed statement of the what and why of the many sprays should be given, either in titles or in the sound narrative.

Some minor shortening and revising could be effected, too. There should in several sequences be a tightening of entrances and exits; one or two titles appear to be cut in late, as the one "The fruit of neglect is—" which could be more effectively inserted at the immediate start of the sequence, rather than after the Agricultural Agent's notice has been removed from the mailbox.

...THE SHOWCASE...



"Professional Jr." Tripod

For some years there has been a definite need for a tripod sufficiently large, rigid and sturdy for use with the heavier 16mm. cameras used professionally, such as the Cine-Kodak Special, the Bell & Howell Filmo when equipped with motor and 200 or 400-foot magazines, and with the lighter 35mm. Eyemos, DeVrys, and similar outfits extensively used in newsreel and commercial camerawork, all of which require a base more rigid than the tripods usually sold for amateur use.

This need appears to have been met with the introduction of the new "Professional Jr." tripod recently developed by the Camera Equipment Company, of New York. It is stated to be among the most rigid on the market, and designed and built to professional standards throughout. The head is of the professional friction-loaded pan-and-tilt type, permitting a 90° tilt with any type of camera, and fitted with quick-release adjusting levers for both vertical and horizontal movements. The head has a wide flanged base and the pin and trunion support is generously oversized for long wear.

The wooden legs are of the type first introduced by Akeley some years ago and since standardized for professional use; a single quick-release knurled knob between each of the double legs permits instant one-handed adjustment of height and quick, positive locking in any position. The height can be adjusted to anything between a low position of 46 inches and a maximum height of 86½ inches (over 7 feet). The top-plate is interchangeable and can be set for use with the Eastman Cine-Kodak Special with either 100 or 200-foot film-chambers and synchronous motor; Bell & Howell Filmo or Eyemo with or without motor and auxiliary magazines; DeVry, etc. The "Professional Jr." tilthead is stated to be guaranteed unconditionally for 5 years. The new tripod is stated to be already in use by newsreels and

by leading 16mm. and 35mm. commercial producers for both silent and sound filming.

New Research Laboratory

A new independent laboratory for photographic and chemical research is being established at 7715 Santa Monica Blvd., Hollywood, by Ralph B. Atkinson, who for the past several years has been associated with the West Coast Technical Division of the Eastman Kodak Company, in Hollywood, and before that was similarly engaged with Bachrach, Inc. The new research plant will be known as the Atkinson Laboratory and will specialize in all types of photographic and chemical research.

Head of the new organization, Ralph Atkinson, graduated from the Massachusetts Institute of Technology in 1929 and obtained a Master's Degree from the California Institute of Technology the following year. During his years with the Eastman Kodak Company's Hollywood Technical staff he carried through many research projects which have been of benefit to practical operations of motion picture studios and laboratories. Among them his "Specifications for Chemical Analysis of Photographic Developers and Fixing Baths" won him an Academy Technical Award Certificate in the 1940 Academy Awards.

New Magazine Eight

Hailed as the second magazine-type 8mm. camera to reach the American market, the newly-announced Cine-Perfex double-eight camera is announced by its manufacturers, the Candid Camera Corp. of America, 844 West Adams St., Chicago, as a movie-making companion to the Perfex Fifty-five 35mm. still camera. The new 8 uses standard Eastman 8mm. magazines, permitting instant changing from black-and-white to color-film. It has a revolving three-lens turret and five operating speeds. The price, with f:2.5 Wollensak 12½mm. lens, is \$59.50.

New Agfa Film Booklet

A new 80-page booklet on "Choosing Film for your Camera" is announced by Agfa Ansco, and is available either from this firm at Binghamton, N. Y., or from photographic dealers. Dealing primarily with the firm's products for amateur and professional still photography, this booklet is stated to contain both general and technical information on all of the firm's film-types and their use. Included are data on properties and applications of Agfa films; correct exposure and processing; filter factors; wedge spectrograms; characteristic curves; color-contrast, brightness-range and graininess data; exposure-tables, meter-settings, developer recommendations, etc. The price is 25c per copy.

Cinemaster Duo-8mm.

Big brother to the well-known popular priced Univex Straight 8mm. camera is the Cinemaster Duo-8mm. camera announced by Universal Camera Corp., 28 West 23rd St., New York. The new camera, available in a wide range of models and prices, is designed to take any standard type of double-8mm. film in either black-and-white or color, and in addition to accept Univex straight-eight film. Other features include operating speeds of 16, 24 and 32 frames per second; built-in extinction-type exposure - meter; interchangeable lenses, etc.

Price Industries Corp.

In the item about the Princeton Photo Switchboard, which appeared in this department last month, we inadvertently neglected to give the address of the makers, Price Industries Corp. So many readers have written in for this address that we are glad to state it is 130 West 17th St., New York.

Kodak Service Rangefinder

The Eastman Kodak Co. announces a new military-type split-image rangefinder, known as the Kodak Service Rangefinder. It operates on the horizontally split field principle, making it exceptionally easy to use under even adverse conditions. There are two distance scales, one outside the unit, the other inside, and visible directly above the image when using the finder. The range is from infinity to 2 feet, which should make it especially useful to cine-amateurs close-upping small flowers, insects, etc., and in title-making. Supplied with a suede-finish carrying pouch, the price is \$5.75.

Color Print Service

Wash-off color prints from 35mm. Kodachrome at really popular prices are announced by the newly-formed Color Prints, Inc., 1711 North Vermont Ave., Hollywood. By standardizing on one size of original—35mm. and Bantam Kodachrome transparencies, and one size of print—8x10—the firm is stated to be able to turn out individually-balanced 8x10 color prints at the low price of \$3.00 per print, with additional prints from the same negative priced at \$1 each if ordered within 60 days.

RCA-Victor Sound-effects Library

Amateur and commercial filmmakers interested in adding sound-effects to their pictures will be interested in the library of recorded sound-effects available from the RCA-Victor division of the RCA Manufacturing Co., Inc., Camden, N. J. (Continued on Page 355)

Clouds

(Continued from Page 315)

is doubly grateful, for he well knows that his filters cannot do anything to that type of sky to improve it. The "cloud machine" is not so color-conscious and will deliver a beautiful sky scene whether the natural sky be hazy or blue.

The use of graduated Neutral Density filters permits considerable control to be exercised to make the plates and foreground scenes balance up. As the intensity of the sky in nature varies much between a front light and a strong back-light, a great number of densities of the same plate would be required if some such control were not possible. However, in practice it is found that front-lighted clouds to be used with front-lighted scenes are printed a certain density, side-lighted clouds are printed slightly darker, and transparencies for back-lighted scenes are printed darker still. Obviously, a plate of back-lighted clouds is not appropriate for a front-lighted scene, so the plates are in a great measure properly balanced and no further modification is usually necessary. It is quite possible to obtain spectacular sunburst effects with any suitably back-lighted scene. However, as the sky varies in intensity more in this lighting condition than in any other, the graduated neutral density control reduces the number of densities of plates necessary for the proper balance of these scenes. Hence, if the sky is extremely "hot" and the clouds are rendered too light, the graduated filter is used to subdue the sky, whereas if the clouds appear too dense in relation to the foreground then the graduated filter is inverted to subdue the foreground portion, thus allowing the sky-area to print lighter.

At our studio about 20 different plates are carried. They include various examples of front-light, side-light and back-light subjects, the same plates with various blend-line heights, for use with medium and close-up scenes and plates in which the cloud arrangement falls off on one or both sides to be used where one wishes to include a building, tree or like subject in the composition.

As any of the plates may be reversed as to left and right to fit the composition or direction of light, this reduces the numbers of plates required. The same plate may be used one way in one sequence and later reversed for another sequence in the same production.

An example of this is in the production "Romance of the Rio Grande." This picture was made last fall when there were weeks on end during which the skies were cloudless. Almost every exterior scene in that picture is made with this invention and for a while I was beginning to fear that I would have to repeat on some of the cloud plates. Reversing the plates gave a whole new set of transparencies.

Had these clouds been put in by other means, the cost would have run into

several thousands of dollars. As it was, the cost was infinitesimal. Some interesting shots came about in that picture. In one case the actors are standing on top of a stage-coach near the top of the frame with "clouds" apparently well behind them. In another case an intricate dual-role split was made against a sky background, where had the clouds been moving, all would have been lost.

When one is familiar with the equipment there is no loss of time in arranging the scene. The set-up is almost like that for a normal scene, there being no necessity for elaborate tie-downs, steadiness tests and the like. The visual effect is there on the ground-glass so the cinematographer can see exactly what he is getting and no further tests or experiments are necessary before the scene can be made. As new plates are made they are tested before being put in production use, so that the location-box is well in order.

With portability and economy in view, we use as small a transparency as is practical. Most often this equipment is used on location where transportation is a vital factor and its advantages would be lost if it were not possible to carry it along with the regular camera equipment. For the stationary shots we therefore use 11x14 plates, with a suitable adjustable holder attached to the matte-box. From the back of the plate to the matte-box a bellows is fitted to exclude any rear reflections, while the usual umbrella is all that is necessary to keep any direct light from hitting the front of the transparency.

In the panoramic attachment, the plates are made on film 16x40 inches in length. These work in an arc about the lens and give ample height for tilt and width for about a 50-degree pan. Films are used for this purpose so that they may be curved to the radius of the panoram, thus presenting a uniform surface to the lens in any position of the pan.

The holder for these plates has been designed in our Camera Department precision machine shop and is a clever attachment that combines lightness, ease of operation and adjustment, and is quite compact. It is attached to an auxiliary plate between the tripod and free-head, for as can be understood the camera must be able to pan independently of the plates. It must be manifest that a panning shot made within such limitations is quite an achievement of trick photography, displacement or "slippage" taken into account.

Full credit must be rendered Supervisor of Photography Dan Clark, A.S.C., and Grover Laube of our Camera Department whose aid and abilities rendered this "impossibility" a reality. Fred Sersen's Scenic Art Department has been most helpful in placing negatives and laboratory work at my disposal.

Aside from the ease and small expense of putting in clouds in the above-described manner, the system has a de-

cided advantage in another respect. Heretofore all action in such scenes had to be performed below the horizon line, or else when the sky portion was duped in, the action would cross over the blend-line. As can be understood in this new process, the "cloud" is in reality perfectly transparent so the action can be through the cloud area, the appearance being on the screen that the action is in front of the cloud. Of course a suitable plate must be used where filtered sky areas do not come over the action. Every kit includes several plates of this nature for use where the action is required to fill most of the screen.

Figures 13 and 14 are examples of this type as well as an example of the type of plate used where buildings and trees cross over the horizon. In Fig. 13 the action has ridden from the distant right well into the foreground as in Fig. 14. Figure 15 is likewise an example in which the actor is well up into the sky area. In these illustrations I have used clips from various tests we have made because they show examples of the scenes as they actually were without clouds, as in Figures 1, 4 and 7, as well as comparison frames after the clouds had been put in. Figure 2 shows the beautiful setting that can be made of Fig. 1; five and six are creations from Figure four.

Figure six likewise shows how foreground objects may be incorporated for composition where needed. Eight and nine are variations in mood of Figure seven. Where dark objects, such as the masts in Figure eight run into the filtered sky area, no "ghosting" is apparent though live action could not be used in the sky area of this particular plate.

In a plate such as Figure 12, action can be placed well towards the top of the picture. A plate such as this can be used for close-ups, thus keeping the cloud formation consistent with the extreme long shots. Please observe in all except Figure eleven, which has been made purposely out of balance, how the effect of distance is realistic and how the "clouds" appear to be actually behind the trees and buildings of the distance.

Figures ten and eleven show a balanced and unbalanced scene respectively. While these are two densities of the same negative, Figure eleven would be satisfactory if a neutral density filter control were placed on the lower half. Figure eleven was photographed at about 2 P.M. The same density plate would be valuable without control later in the day, when the sky would be much brighter.

While these few examples in no wise show the full limits of the process, they should convey some of its possibilities. For example it is quite possible to use the same principle with blue-toned or blue-dyed transparencies for color-photography as my Kodachrome movies well testify. The only draw-back to employing it with Technicolor at present is the inability to use wide angle lenses and

Hollywood Reporter
Preview Poll Awards

To

ERNEST PALMER, A.S.C.

DIRECTOR OF PHOTOGRAPHY

Twentieth-Century Fox

“BLOOD AND SAND”

IN

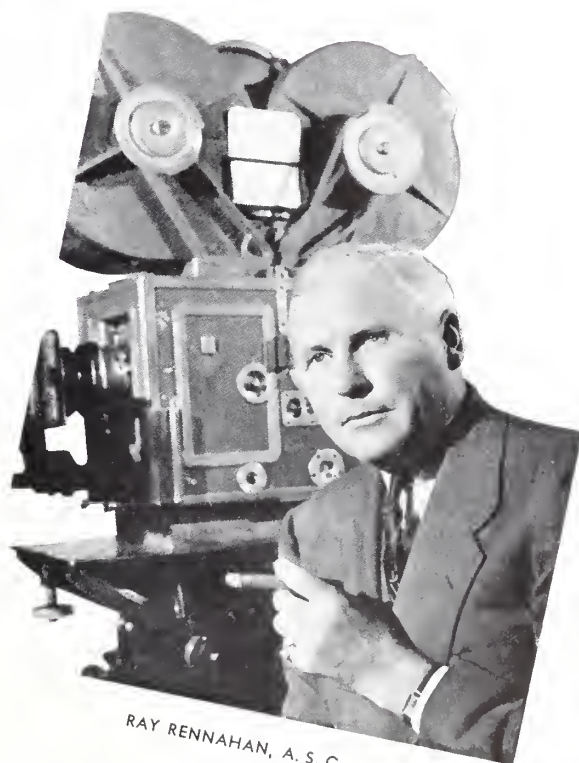
TECHNICOLOR

and
RAY RENNAHAN, A.S.C.

FOR TECHNICOLOR



ERNEST PALMER, A. S. C.



RAY RENNAHAN, A. S. C.

EASTMAN FILMS
BRULATOUR SERVICE

stop down sufficient. The utilization of larger plates would overcome this limitation. On those days with white skies this system would be particularly advantageous.

The process will never supplant the beauty of real clouds, nor is it intended to. But when nature has not been so kind, and the cinematographer is stuck, then this process is a friend indeed. It has been most gratifying to me to see the active co-operation of the Directors for this system. Fortunately they appreciate the value of scenic beauty to the picture and are just as enthused as the cinematographers are with this new tool.

The value of the system was again proved to me the other day in my last picture, "The Last of the Duanes." A sequence had been taken where these synthetic clouds were used; a retake for dialogue was necessary. We made a portion of the scene over, using the same transparency so of course the sky of both scenes is identical. No one will ever suspect there was a re-take made several weeks later.

For short sequences the back lot now presents attractive skylines, and the cost element is a minimum factor. For background projection plates it is a boon, for the process cameraman can put in the same cloud formations that the production cameraman uses, though he may make his plates days before or after the production scenes are made.

Clouds that fit the mood of the scene may be selected at will. Bright fleecy clouds may be used for the usual run of scenes or sombre, threatening formations to indicate approaching storm or trouble as the mood requires. It is quite practical to give movement to the clouds by slowly moving one or more plates across the field as the scene is being taken. However, in the majority of cases this is unnecessary for in editing the scenes do not remain long enough on the screen to detect motion.

Lest I be accused of being over enthusiastic about the matter perhaps it is well to quote Dan Clark. He says, "This method and its related devices has been developed and used by Twentieth Century-Fox for some time, and has proven to be a great stride in economy as well as an important factor for enhancing the beauty of photographic effect."

Intelligent use of the device should always be exercised as well as rare judgment when making the original plate. Its composition and future uses must be well visualized. With these precautions, the cameraman may go forth and bring in the goods. That this system is catching on from our success with it is evidenced by the interest that other cinematographers have shown in it. I understand that Warner Bros. and Paramount are building outfits, and I predict that in the near future it will be standard equipment in all the studios. If it does, I shall be glad that I have in a measure proved its practicability. END.

China's Camera-Aces

(Continued from Page 317)

country, but in a larger sense for world peace and the real brotherhood of man.

Before the war came to China, China had a film industry. Studios scattered through the great coastal cities—Shanghai—Hong-Kong—Canton—Peiping—Nanking—were beginning to produce theatrical films and documentaries for the entertainment and education of China's masses. Today, they are in the interior—sometimes in Chungking, sometimes wandering far afield wherever their tasks may take them—making still and moving pictures for their country. They have not been drafted into the army; they are in no sense a Government Department: they are private citizens, banded together as a private photo-service, working with the aid and co-operation of the Government, but with their own resources, giving their time, their skill, and often their lives for their country.

They make their pictures in both 35mm. and 16mm., as the occasion and the subject may require. Their equipment—what there is of it—is good: 35mm. Bell & Howell and Mitchell studio cameras, Eyemos and DeVrys, and 16mm. Filmos, Bolexes and Cine-Kodak Specials. Just before I left Chungking, they ordered an Art Reeves 16mm. sound-on-film recorder, which is by now probably serving them well.

Their film is all too scarce. Some of it is 35mm. Agfa or Eastman negative, carried thousands of miles from England or America through Russia, or along the Burma Road. Most of it is 16mm. reversal-film—Eastman, Agfa or Gevaert—which they process themselves despite the amazingly crude rack-and-tank processing equipment which is the best they can afford. Racks, like so many other things Chinese, are of bamboo; the drying-drum is also of bamboo, strung between two discarded rickshaw wheels. Their printers are often self-made. Yet they turn out amazingly good work.

Getting their pictures is a dramatic saga in itself. Continuously on the alert, cameras strapped to their backs, the precious films carried in waterproof cases, they journey to their locations, crossing mountain rivers on primitive bamboo rafts, sleeping, Spartan-like, on floors—even in stables—stopping at little wayside inns for a bowl of rice and a sip of hot tea, going wherever they may be needed—wherever there is a picture of any sort that will help China.

At the front, they wear semi-military uniforms and wear soldierlike "tin hats." They carry gas-masks for emergencies, and live the life of a soldier. When they need a close-up of some machine-gun or sentinel, they don't "stage" it as they would have during their peace-time studio days; instead, they'll creep slowly and perilously up to and often through the barbed-wire to get that shot—and perchance, to get shot for getting it!

With bad weather as a constant handicap—to say nothing of cold in the far

northern provinces such that fingers freeze to cameras, of fogs that no haze-filter can stop from penetrating to one's very bones—they stalk their prey with lens and film. They have told me of the trouble they find in filming many of the most really significant details of the actual fighting: Chinese armies prefer to fight at night, to the discomfiture not only of the enemy, but of their own photographers! They've told me, too, of the thousand-and-one ways in which visiting cameramen of the leading American newsreel and newpicture services have helped them, and how they strive to return that help in all possible ways, knowing full well how important it is that true pictures of their fatherland's war effort be sent to friendly foreign newspaper markets and readers.

Most of these men have had occasion to meet more "big-shots" and to listen to more speeches than any but perhaps an American newsreel man in Washington. For hours they have stood listening intently to the Generalissimo as he delivers his masterpieces of speech; they have followed the First Lady of China, Madame Chiang, on her trips to the orphanages and made a record of her genuine love and care for these little ones.

These men of lens and shutter have peered through their viewfinders and discovered new angles on almost everything that can affect China's program of reconstruction and resistance, of her behind-the-lines drive to modernize the vast hinterland and its millions. They have filmed story-telling pictures that help keep up and build the indomitable spirit of Free China—China's warplanes and their keen-eyed young pilots, both slowly increasing in numbers against the day when they can deliver telling blows at the invader's warriors—the might of China's immense manpower reserve—her growing industrialization that is turning out materials of warfare—the aid that is coming from abroad, and how it gets there.

And beside this, they are turning out films which will educate China's masses to do their bit better, more efficiently. Documentary films of the "how-to-do-it" order—films showing the importance of the Cooperatives or C.I.C.—the suppression of opium-smoking—places and people formerly unheard-of, from the great far west of China—Singkiang and Mongolia—that have joined up in the great resistance against the enemy.

And they show these films everywhere. Sometimes to a camp-full of soldiers at night, with the screen a white-painted patch on the wall of some building or even on the rock wall of a cliff—the purring 16mm. projector fed by a hand-powered dynamo "pumped" by cheerful coolies who sing as they work, and occasionally rest for breath, while the projector stops for want of juice. A few months ago, deep in the interior, China made a new airport—said by experts to be the biggest and best in the world. Fifty thousand men came from all parts of China to work on it. A mountain

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stream was dammed and diverted to a new bed, running around instead of through a cliff-walled valley. Circular holes were blasted in the rocky cliffs, and from them, huge, cylindrical rock rollers were taken to the boulder strewn floor of the valley where—five hundred men to a roller—they were hauled back and forth until the floor of the valley was as smooth as a billiard-table. And during the nights, a white-painted square on the cliff-face became a screen for movies by which the cameramen of Chungking entertained and educated the workers!

Their silent films are educating and unifying a nation, bringing to its people and to the world the living history of China's achievements. Their sound films are slowly leading the way to the establishment of a truly national language in place of China's myriad tongues and dialects. And yet these cameramen of New China are volunteers in the strictest sense—doing what they do, risking their lives for devotion to an ideal!

And that's my story this time. It is not really a story; I call it a poor rendition of a great symphony—the silent symphony of those camera-aces who are doing their part for China and the world. They're in there now, grinding silently away; and they'll be in there in time to come when, I am sure, the greatest picture in China—the victorious march of China's troops through Nanking, the liberated Capital, is filmed. And I hope there may be an A.S.C. member in that day, standing beside these obscure heroes of dugout and battlefield to whom America, and particularly American films and film-makers, represents the great admired friend from overseas!

But today, China and her people are still at war. And to those who might be interested, let me say that these camera-aces of China, banded together as the Thomas Kwang Newsphoto Service, can provide pictures of wartime China, stills and movies in 35mm., 16mm., and 8mm., the latter two in both black-and-white and color.

And if any reader finds himself in China, let me urge him to go to Chungking, and stand at the foot of T'ai-piao Hill, "free to the birds alone"—and visit the dugout where I found these men whom I call "China's Wartime Camera-Aces." END.

An Artist Looks at Technicolor

(Continued from Page 318)

and the others, any more than he could repress a feeling of elation on learning that at last there has been established a definite, well-recognized alliance between the fine arts and the cinema. For only such an alliance (really understood, intelligently exploited) will fulfill the promise the cinema has always held and seems now on the point of realizing; which is to itself become one of the fine arts, but the one best designed to reach the greatest mass of the people, and thus to achieve its destiny as the greatest art of modern times. The share the cinema-

tographer will have in this triumph is an immense one. He is to be congratulated on his enviable position as *the* artist of the day. END.

Arc Boosters

(Continued from Page 319)

ly, the player tends to squint in reflector-lit exteriors. The softer light of the Mazda booster minimizes this problem.

But the modern Technicolor-type arc, I have found, is as much easier on the eyes than the Mazda as the latter is in comparison to sun-reflectors. Therefore I have found—as Technicolor cinematographers have before me—that I can use arc boosters in greater profusion and intensity without troubling the eyes and expressions of my players than would be possible with any other method of lighting.

In theory, at least, there should be yet another advantage to this idea of using arcs as boosters. I have not as yet had an opportunity to try it out, but on theoretical grounds, at least, it should exist. It should allow additional freedom in the use of filters on close exterior shots of people.

Most of us have learned from sad experience that it is best to keep on the conservative side as regards filtering where a sequence calls for angles closer than long-shots, since the heavier filterings, though they may improve the pictorial value of the background, will also tend to distort the normal rendition of facial tones until, with the heavier warm-toned filters, we can completely "chalk up" faces and lips. And we can't often employ the trick I've sometimes used in location scenes where practical interiors and exteriors were combined, putting colored glasses or gelatin in windows to act as a huge filter behind the players to correct the background!

The filters we would want to use would be the various orange and red ones which tend increasingly to lighten face-tones. When warm-toned incandescent booster-lighting is added to this filtering, the effect would naturally be increased. But does it not seem logical that this filtering effect might be considerably lessened if, for lighting the faces of our players, we substituted the more blue-white beams of arcs, possibly unfiltered arcs? It would probably not work with the extremely heavy red filters which have a sharp and complete cut-off in the blue end of the spectrum; but for the lighter filters normally used it would seem that this use of arcs might very well give us what we have for some time wanted, namely the ability to mildly overcorrect our background without at the same time overcorrecting the rendition of our players.

In general, then, it seems to me that the use of arcs as booster-lighting units is something which offers many immediate, practical advantages, and in addition, opens up several useful new fields for experimentation. As such it seems worthy of increased attention by members of the camera profession. END.

Jimmie Howe

(Continued from Page 322)

super-fast emulsion for production camerawork differ. Some cinematographers like to employ substantially normal lightings, with shortened development, using the film largely for the softer gradations it gives. Others like to over-light considerably and then stop down for extreme depth. My own inclination is to give the film virtually full normal development, and to utilize its additional speed to make possible still lower level of illumination. Using the conventional Plus-X negative, my normal average key-light level is about 70 foot-candles. In my experiments with Super-XX, I have cut this to approximately 35 foot-candles, and obtained a beautiful negative of thoroughly normal density and beautiful quality.

"There is one thing about modern cinematography," Howe remarks, "which I feel no one has emphasized sufficiently. This is the profound influence the photographic and picture-magazines which have become so popular during the last ten years have had on styles in studio camerawork. We all of us recognize that what we would have termed a well photographed picture ten years ago does not seem nearly so good an example of photography today. Where, for example, ten years ago nearly all of us employed really heavy optical diffusion and lightings that were, to say the least inclined to be splotchy, today our work is entirely different.

"Even before Gregg Toland, A.S.C. came along with his 'Citizen Kane,' there was a marked tendency in every studio toward crisper definition and greater depth, sometimes accompanied by increased contrast. Better lenses—coated and otherwise—have played their part; so have the snappier contrast of modern emulsions and the improved definition obtainable from fine-grain positive. But to my mind, the biggest factor in this transition has been the change in the public taste. This is directly traceable to the growth in popularity of miniature-camera photography, and to the big picture-magazines like 'Life,' 'Look,' and the rest, and such modern photographic magazines as 'U.S. Camera,' 'Popular Photography,' and the others. The public has seen the stark realism of the newspaper reporters, and the pictorial strength of the work of the modern miniature-camera photo-illustrators and pictorialists.

"It wants something of that type of realism—modified to suit the motion picture medium, perhaps—but still maintaining the same realistic tone, in its movies. We — cinematographers, directors and producers alike — must necessarily give it to them. Therefore our style of cinematography has changed, so slowly and subtly that we ourselves have scarcely been conscious of it, but very definitely none the less.

"I doubt if cinematography can ever go quite as far in this direction as still

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photography; it would be difficult to capture consistently with a movie camera and the ever-changing requirements of a picture's dramatic action, the f:128 crispness Edward Weston, for example, gets into his stills. But when I compare the ultra-fuzzy scenes we made fifteen and twenty years ago with the vastly more natural effects to be found in any well-photographed picture today, I cannot help feeling we have advanced."

From all of which it can be deduced that Jimmie Howe is a photographic progressive. He is; that Irish-schooled imagination of his has kept him exploring new methods and ideas, both technical and artistic. He was among the first cinematographers to make use of panchromatic film, back in the days when the whole world was on an ortho-film basis. He was one of the first to use panchromatic for both exteriors and interiors alike. He was one of the first to use incandescent lighting. He was one of the first to admit he could satisfactorily photograph a rugged leading man without the questionable aid of make-up. And he was one of the first production cinematographers to make a film with the three-color Technicolor process.

In that film—it was Selznick's picturization of "Tom Sawyer"—he pioneered in a direction which is just now being re-explored: the *elimination* of unnecessary color from a Technicolor production, in order that it might be more effective—and more natural. "Tom Sawyer," it will be remembered, was begun as a black-and-white picture. Only after several weeks of production was it decided to make the film in Technicolor.

"Then," Jimmie reminisces, "they wanted to rebuild and repaint the sets—to make them more colorful, because the picture was to be in color. I fought that idea to a standstill, and finally persuaded them to let me continue with the same sets and costumes that had been designed for the black-and-white production. The only concession made to color was in replacing such table-cloths, sheets, collars and similar fabrics which, for the monochrome version, had been tinted light amber or blue to minimize halation, with actual gray-white materials.

"The result was one of the most natural-appearing color pictures that had been released up to that time. But one sequence in it was specially 'designed for color'—and it, instead of being a strong point in the film, became one of the weak ones. The scenes the audiences seem to remember were those where we used the identical sets and costumes made for the black-and-white production.

"I can't help feeling flattered that it is only now that such noted Art Directors as Cedric Gibbons, with 'Blossoms in the Dust,' and Richard Day, with the various recent musicals from 20th Century-Fox, are beginning to stress this same idea of minimizing color—of letting the Technicolor camera capture a 'natural' effect rather than

something 'specially designed for color!'"

There's another side of the matter that Jimmie Howe is too modest to mention. That is that he made his Technicolor production—using, of course, the old, slow-speed Technicolor negative film—using in many cases less light than is generally being used in today's Technicolor filming with much faster film and improved laboratory methods. And his mastery of the color medium may be best expressed by one of his associates on "Tom Sawyer"—a distinguished cinematographer in his own right, who declared: "I've been photographing Technicolor for many years, and thought I knew something about it. But I didn't really begin to learn what could be done in lighting Technicolor until I made that picture with Jimmie Howe!" END.

"Inkies" in Technicolor

(Continued from Page 323)

been too small to be of use in Technicolor lighting, have become at least as valuable as they were in monochrome before the introduction of today's super-speed black-and-white films. Such small, compact units as the "Baby Keg-lites" are proving invaluable in modern Technicolor lighting. They may be placed with greater precision than is possible with bulkier units, and even in some instances concealed within the scene.

As a matter of fact, I am inclined to believe that the "Dinky Inkie," small as it is, can today be of value in Technicolor lighting. To that end the Electrical Department of the 20th Century-Fox Studio is now in the process of adapting a "Dinky" for Technicolor use, making a corrective filter from a broken piece of a discarded larger one. I know that this little lamp will be useful in lighting faces—especially in eye-lighting—and I anticipate it will also be handy for special lighting tasks concealed within the scene itself, exactly as we use these units in monochrome.

There is still another important aspect to the use of incandescent lighting in Technicolor: that is their use in color-effect lighting. In this respect, the Technicolor cinematographer has an enviable range of useful tools readily at hand. The high-intensity arcs with their "Y-1" filters, and the inkies with their Macbeth filters, give a daylight-white light for normal effect.

Remove the "Y-1's" from the arcs, and you have illumination of a steely blue which is excellent for moonlight effects. Add to them a blue filter, and you can heighten the bluish night-effect when such exaggeration is dramatically necessary.

In the same way, when you remove the normal corrective filter from the incandescent units, you obtain a natural, warm-toned effect—yet one that is still by no means reddish—which excellently simulates lamplight. Further warm-toned filtering, or sometimes the use of standard Mazda globes in place of the "CP" type, will give excellently realistic torchlight and firelight effects.

These varying light-sources can often

be combined in a single scene, to give pictorial and dramatic effectiveness. Few days ago, in a scene for my current production "Honeymoon in Havana," I had such a lighting. The scene was inside a luxurious hotel-room at night. On one side was a balcony, bathed in moonlight. At the other was a table upon which was a softly-shaded table lamp with an amber shade.

As we wished to produce an essentially normal effect, the set and players were lit quite normally with intermingled arcs ("Y-1" filtered) and blue-filtered inkies. The moonlit balcony was lit with high-intensity arc spotlights from which the straw-colored filters had been removed, creating a faintly blue moonlight effect. The "practical" globes in the table-lamp were Photofloods, and an unfiltered 5-KW inkie spotlight was suspended directly over the table on a "trombone," with its beam, diffused with a "cello," pointed directly downward to illuminate lamp and table. Another large inkie spotlight, with its blue filter in place, was swung above the set on a rope and pointed straight downward for added general lighting.

The main part of the action took place at a door, necessarily close to the angle-side-wall. To light this action properly two inkies—a "Junior" and a "Baby Keg"—were hung from the wall on trombone-hangers, and placed conveniently above the actors, where their beams could be used as key face-lighting. Foreground general lighting was produced by mixing the beams of a pair of arc broads and several filtered "Juniors" and "Baby Kegs," well flooded.

When viewed from the black-and-white cinematographer's standpoint, this scene is obviously nothing unusual. With the exception of the use of the arcs for part of the lighting within the room, and of course the corrective filtering on most of the lamps, there was nothing in the lighting which would be particularly novel from the black-and-white point of view. But in color, without the flexibility of the inkies which permitted their use on hangers and in steeply-inclined positions, that action—especially that played close to the wall—would without doubt have presented serious and delaying inconveniences.

But by making full use of the whole range of modern lighting equipment now available to the Technicolor cinematographer—using arcs in their place, and incandescents in the places to which they are particularly suited, we were able to film the scene in color quite as easily as we would expect to do in black-and-white—and much more effectively.

And that, I think, is the real significance of the use of incandescent light-sources in Technicolor camerawork. Arc and inkie each have their vital place in modern Technicolor lighting; but the addition of the inkie has added measurably to the convenience, celerity and effectiveness of Technicolor lighting, and done a great deal to prove Technicolor's contention that, properly handled, the

addition of color no longer exerts a retarding influence on a production unit's activities, but adds mightily to the effectiveness of the completed film. END.

Editor's Finder

(Continued from Page 325)

for all their overly serious efforts, while the apparently slipshod, playful group was able to stop work early, comfortably ahead of schedule. And we're sure that a great majority—if not actually all—of the industry's most successful productions, financial as well as artistic, came from "happy" production units.

We wonder if there isn't a constructive lesson for all of us in that. We in the motion picture industry hear and say a great deal about what our films do toward building up and maintaining the morale of our customers, the theatrepatrons. But there's mighty little said or done about keeping a "happy," efficient morale among the people who make motion pictures. Of course there are studio clubs—dances—golf, tennis and bowling tournaments—picnics, and the like. But how pitifully little is done to assure that efficiency-building morale at the time and place where it really counts—on the set during actual shooting.

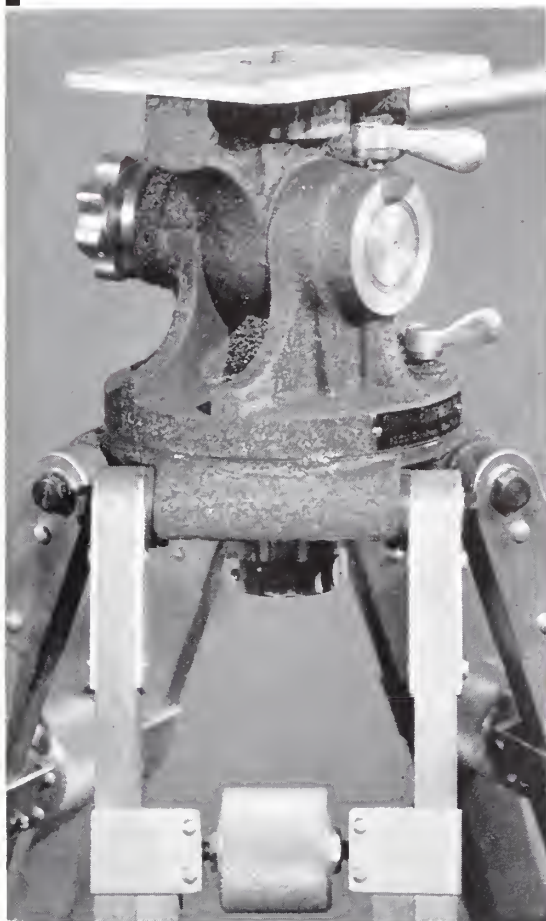
By this we don't mean pep-talks and community singing between takes; after all, most of us are mature people, fully mindful of the fact we're engaged in a business where time and productive results are money. But a vast deal can be done for efficiency in minimizing the mental and nervous strain built up by some directors, producers, assistant directors and unit managers who constantly harry everyone on the set with an urge to speed things up—and consequently make them "press" so hard, to use the sportswriter's term, that they actually work slower and make more mistakes than if they had been allowed to do their work cheerfully. Some day, we're sure, someone is going to try this simple formula—and become overnight the greatest efficiency expert the industry has ever known!

EVERY so often you'll hear someone complain that the photography in his studio or that—possibly in the whole industry—has become stereotyped, and lacks originality. Sometimes that complaint may be justified by undue executive interference with photographic work. But often it isn't due to that, but to inescapable conditions dictated by the personalities that studio's cinematographers must photograph. When you're faced in almost every picture with the problem of making feminine stars who, to speak kindly, no longer young, appear less than half their age and glamorous, to boot, and of taking twenty years off the age of male stars and leading men, you dare not experiment radically.

We have in mind one major studio at whose brilliant camera staff this charge has more than once been levelled. Off-and, we'd doubt if, out of a truly im-

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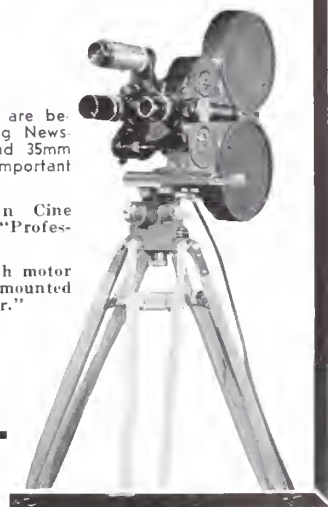
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pressive contract list, they could find more than three front-rank feminine stars who are under thirty, and more than a scant three male luminaries sufficiently young to be worried about the draft. Yet all of that studio's remaining (and impressive) stars, including some of the great names of filmdom, are repeatedly cast in roles demand at least the illusion of youthful charm. How else can the men at the cameras provide it than with conservative lightings that eradicate wrinkles and minimize the effects of years and sometimes of self-indulgence?

We'll wager that fully half the photo-

graphic originality in Gregg Toland's "Citizen Kane" was made possible by the fact that most of his players were genuinely youthful, and did not, moreover, have to be presented on the screen as they had appeared in other films for some ten or fifteen years. We'll wager, too, that if the same cinematographer were assigned to a film starring a more mature star—masculine or feminine—who had in spite of the years to be kept glamorous, he would abandon much of "Citizen Kane's" original—and revealing—technique.

This situation is not confined to any one studio; it is familiar to directors

of photography on every major lot. True enough, they have many good friends among the established stars, to whom they as well as the public are loyal. But how they'll welcome the appearance of new and younger faces before their lenses! There seems already a trend toward the development of newer and younger acting talent—the most pronounced, perhaps, since the coming of sound. And as it develops, we'll wager that hand in hand with it will go a marked trend toward less conservative camerawork. END.

Reflectors

(Continued from Page 329)

a bit closer and "hotter" than the other, to give a nice modelling. In a case like this, it is better to have one reflector nearer the subject than the other than to use a "hard" reflector for one side of the face and a "soft" one for the shadow-side, for the "hard" reflector gives too strong a beam to be really pleasing.

If you are working in the shade, as for example on a porch, under a tree, or in the shadow of a house, you can use this same method, placing your reflectors out in the sun and shooting their beams in where you want them. Where you are deep in the shade, "hard" reflectors may be best, as their beams hold together and carry better. Professional cinematographers, by the way, have sometimes been known to use reflectors in relays for this sort of a shot, tossing the light from one reflector to another until it reaches the place where its help is needed! This is rather of a trick, though, and I wouldn't recommend trying it until you're very sure you understand reflectors and their use.

Another trick studio cinematographers perform with reflectors is to make them

provide back and rim-lighting. One of the illustrations shows this rather well. You will notice that in the right-hand picture of Faith Dorn the sun provides a high back-lighting, but there is a strong rim-lighting on the left side of her face. This came from a "hard" reflector placed at that side, throwing back a strong beam of reflected light. The right side of her face, which would ordinarily be in shadow, is lightened up by the use of a "soft" reflector on that side, and somewhat farther back.

You can use this same principle to obtain an effective back-lighting, too. Your subject, let's say, is facing the sun, giving a flat front-lighting to his or her face. Now place a reflector—a "hard" one—behind him (if your camera-angle permits doing it without getting it in the picture!) and you'll add a nice, outlining back-lighting. And if you can't manage it with one reflector, you often can with two. Place one at each side of and behind your subject, just out of the camera's field, and they'll throw back a strong outlining back-lighting which is most effective.

If you'll study the exterior shots in almost any well-photographed studio film, you will notice that almost always the natural, direct lighting on the people is soft and diffused, and that the facial modelling has been done either by reflected light or by "boosters"—studio lighting units used in place of reflectors. This is done purposely, because it makes for better photography.

Professionals usually use a "scrim"—a doubled layer of fine black netting either suspended above the players, out of camera-range, or stretched over a big wooden frame and held vertically between the players and the direct sunlight. This sort of thing is rather too cumbersome for most amateurs, though

some of the clubs that go in for collective shooting of scenario productions might find it worthwhile. But for close shots, there's a gadget any amateur can easily use which will fill the bill excellently.

Do you remember in some of the old time still "portrait galleries" the round diffusing-screens they used to use? They were usually hoops two or three feet in diameter, covered with several layers of dark netting, and mounted either on a stand with a double-jointed arm or a flexible-tube goose-neck which permitted the diffuser to be angled to any desired position. If you keep a weather eye out among the photo-supply stores that do business with professional portraitists you can often pick up one of these gadgets very cheaply, second-hand. Or you can build one without much trouble or expense.

When you shoot close-ups—especially of a pretty girl—try using one of these scrims. Place it so it comes between the girl's face and the sun, well out of camera-range, and shading the face from all direct light. What remains will be a good deal like the pleasingly soft light you've encountered on slightly cloudy days. Remember what nice face-modelling that sort of light gives—? Well, using a scrim you can get it every time, and then add to it by using reflectors for modelling, back-lighting, and so on. Try it—you'll find your close-ups will be much more flattering with this sort of lighting!

Exposure when using reflectors should not be a particularly serious problem, for in most instances an overall reflected-light reading with any good, photoelectric exposure-meter will give the right answer. But balancing the reflector-filled shadow-side to the highest-side is more of a problem. In general, to get an effect of a natural, "open" shadow, you should have about half as much light in the shadow as in the high-light. While you're learning how to use reflectors, you'd better let your meter help you with this. Take separate readings on each side, coming in close enough so you're sure the meter is scanning only that part of the field you want a reading on—and being sure, too, that your own shadow (or that of the meter) isn't blocking off part of the direct or reflected light whose value you're measuring. Increase or decrease the illumination of the reflector-lighted area by moving the reflectors in or out until you've obtained the desired balance. Then you can either take an overall reading to obtain your proper diaphragm setting, or follow the old, old photographic rule of "expose for the shadows, and let the highlights take care of themselves." I think generally, though, the overall reading will be better unless you are using an illumination balance such that you can be sure your highlights won't be "washed out."

Incidentally, in exposing Kodachrome this way, you will want to have rather more light in your shadows than you would in black-and-white, for Koda-

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chrome, like any color process, has far less latitude than black-and-white, and highlights in Kodachrome "wash out" very easily—and unpleasantly. You may have to watch the highlights when you're using some of the faster black-and-white emulsions, too, building up shadow-illumination so that your contrast-range is safe.

Sometimes, if you have a large expanse of brightly sunlit background behind your people, it may be a very good idea to take a meter-reading of that background alone, and then manipulate the reflected light on the people until it balances safely with the brilliant background, and you'll avoid having correctly-exposed people and a burned-up background or vice-versa. This is especially a point to watch when your people are in the shade or under a scrim, and the background is in open sunlight. But between reflectors and intelligent use of the meter you can control almost any photographic situation. You'll even be surprised how much light a good reflector can kick back on cloudy days, when you wouldn't expect it to be of any use at all!

So we've gotten around to the point where we started: reflectors *do* give the movie-maker something very closely comparable to the still-photographer's synchro-flash photography. In fact, the reflector has two real advantages: by using two or more reflectors, you can get lighting-effects your still-man friend can't get unless he uses a tricky multiple-flash set-up. And besides, he has to pay for his flash-bulbs, whereas your reflectors, once built, don't cost anything to operate, for Old Sol furnishes your light with no charge—except an occasional touch of sunburn! **END.**

Mistakes

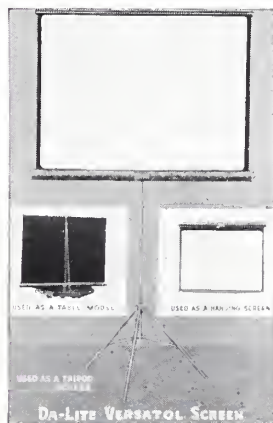
(Continued from Page 330)

feet or under—the finder will give you quite a bit more head-room than actually exists, if it's on top of the camera, or will see more to one side or the other than the lens does, if it's mounted to one side of the camera.

Professional finders have adjustments that automatically compensate for this as the focus is changed, either by pivoting the finder, or through automatic sliding mattes. You can fit a gadget like this on an amateur camera, but it's quite a bit of a job. You can also make accurate tests and rule guiding lines for close work on the lens of your finder. But a very simple way to at least minimize this mistake is merely to provide yourself with a little reminder to watch out for this trouble in close shots. Simply stick a narrow strip of transparent, colored Scotch tape on your finder—at the top, if the finder is above the lens as in an Eastman camera, or to the left, if the finder is on the left side as in many Filmo models. With the large finders used on some sixteens, the Scotch tape strip should be about an eighth of an inch wide; with a smaller finder, about half that.

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In making long-shots, the transparent tape won't interfere at all with the normal use of the finder. But as you come in closer, that little colored edge will remind you of the danger: use the inner edge of the colored mask as the boundary of your field on that side in shots closer than, say, eight feet, and you'll eliminate this scalping trouble nine times out of ten.

Probably all of us have made lovely shots—without remembering to remove the rubber lens-cap from the camera. If you have a camera like the Filmo Turret 8 and other similar ones which are fitted with matched positive viewfinders, you can work up a simple gadget that will minimize this mistake.

Several manufacturers make lens-caps fitted with a little rubber tab which is supposed, at least, to project into the finder's field and tell when the lens-cap has been left on. Take two of these, of appropriate sizes, and cement their projecting tabs together so that when the camera lens-cap is on, the other cap can be fitted over the finder-lens. This way, when you take off the finder's lens-cap, you've got to remove the camera lens-cap which is cemented to it. And if you swing your turret to bring a different lens into place, and then look through the capped finder and see nothing but blackness, you can be sure you're going to get the same effect on the screen, since both of the lens-caps are on! **END.**

F. J. Mortimer, the well-known British photographer, has been re-elected President of the Royal Photographic Society.

Professional Quality

(Continued from Page 333)

sunlight, in fact, the needle usually runs off the top end of the meter scale if this is tried, and it is consequently essential to cut down the reading to give a direct stop number which can be used on the camera. This may be done either by a neutral grey filter (which does not cut down the angle over which the instrument reads, and thus makes a large white sheet of paper or card necessary), or by masking the cell of the meter itself as shown in Fig. 1. These masks are made as described below, to a suitable size.

Before dealing with this point, the practical points connected with meter readings must be mentioned, so that the instructions have been set out below in conjunction with those for altering the meter. It is important to remember that *consistency* in exposure is the most important essential: if consistency is achieved, any slight general variations from the required screen brightness level can be put right in a few moments.

Thus—

1. Choose a piece of stout blotting-paper or sand-blasted white celluloid for the artificial high-light. (The latter is more durable and can be washed if it gets dirty.)

2. Holding the artificial high-light in the left hand, take the meter in the right hand, and place its front end on the left thumb as in Fig. 2. The front end of the meter should just touch the white surface. This is the standard position for meter and card when taking a reading.

3. Turn the meter and the artificial

high-light together, without altering their relative positions, until the maximum scale deflection results, and then tilt the card slightly back and forward to make sure that a higher reading still cannot be obtained. If such a higher reading results, it must be used. Always take care that the body and head are not shading light from the white card used.

4. Strictly, the reading should be made in the position of the subject, but for most outdoor work it is quite accurate enough to take it while behind the camera.

5. Where no sun is falling, let the artificial high-light face so that the light from in front of the subject strikes it, and take a reading in that position.

6. Under trees, and where the light varies from point to point, the reading should be made in the actual position occupied by the subject. This is also necessary in artificial light work.

7. If the sun is behind the subject so far as the camera is concerned, a normal run reading will make the face tones dark and shadowed and the background will more or less match that in other shots. If the face tones *must* be matched, read as under (5) above, but remember that the ground will be so light that much of it may be burned-out and show no detail. (This last is really a special effect subject.)

8. Make a speed test to adjust the exposure meter, as follows:

(A) Load 25-30 feet of film into the camera.

(B) Take the sun reading on the scene for the test.

(C) Divide the stop number obtained by 3 in the first place as a general guide. (Thus, if the meter read f:32, use f:11, the nearest stop number to 1/3rd of 32.)

(D) Say the result is f:11, expose

short lengths of film at f:4, f:5.6, f:8, f:11, f:16, and f:22.

(E) Repeat this process, A to D inclusive, on three other subjects, making the conditions as varied as possible, and always including one scene in which the sun reaches the subject.

(F) Return the film for processing with the request that it is not compensated, but treated by time and temperature only.

(G) Project the film under normal conditions on its return, and decide which image of the test is to be preferred in each scene. It is essential to disregard contrast and to look only at the lighter face tones for this purpose and it will be found (assuming the film stock to have an anti-halo backing—no other is really useful) that in each case the preferred image has some definite relation to the original meter reading. If it is found that some scenes apparently need one stop exposure more than others then the meter is not working correctly or else the face tones have not been sufficiently carefully examined.

(H) Having ascertained how much difference there is between the original meter reading and the preferred exposure level, make a mask which covers the cell of the exposure meter and reduces the reading in each case from the original high value to this new correct stop number. It is simplest to choose a sunny day with constant light, and then make the hole in the mask too small, snipping the edge out bit by bit until the correct reading has been obtained.

(I) Remember that this speed test is valid for daylight only, and that another will be required for artificial light. File away the film for reference, and do not scrap it. *This is important.*

A number of small points may also be mentioned. If the meter is suitably masked, its angle of field is considerably reduced, and a small artificial high-light can be used. 4x6 inches is usually amply large enough, and this size can usually be fitted comfortably into the camera case.

Once the meter has been masked so that it reads at the correct and chosen level, it is not necessary to change unless the film alters in speed or the meter goes out of order.

There is no need to apply any correction to the readings given by the masked meter and artificial high-light, except under the following conditions:

Snow scenes, titles, newspapers, and the like—reduce the stop by one division on the scale. This is necessary since our usual standard of screen brightness makes a face much lighter than in real life, and anything very light in tone tends to burn out. By applying the above correction, everything is made slightly darker, and the details in a snowy landscape become visible. (It is usually noticeable in all snow exposures that human faces seem very sunburned and much darker than usual, for just the above reason.)

Filters are dealt with in the usual way, by opening the stop up according to

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the filter factor. No correction is made for long-shots, mid-shots, and close-ups, although it is usually advisable to use a heavy filter in telephoto lenses in order to make the image have a better contrast.

Editor's Note: This is the first of a series of articles on exposure and exposure-metering by P. C. Smethurst, who is one of England's leading authorities on exposure-control with professional and amateur films. Further installments, which will be published in forthcoming issues, will deal with subject and lighting contrast, artificial-light readings, and similar important details.

Color Composition

(Continued from Page 335)

maker endeavors to modify and subdue this brilliance, his films will contain glaring combinations that worry the visual sense and irritate the nervous system. Many times the writer has sat through a program of amateur colored films which have made the eyes tired and produced a headache and slight squirmishness.

Modern Technicolor films do not always have this effect. Most professional producers have realized that moving pictures have an unpleasant effect if they contain glaring combinations of colors, unreal colors, or changing scenes that are not harmonious. They arrange color as carefully as any other part of the film, and the change from medium to close-up in following shots have the same color composition.

The Metro-Goldwyn Mayer film "Sweethearts" contained some of the best color continuity I have seen to date, and two adjoining scenes in this film will explain what is meant. Nelson Eddy is seen in the background singing into a microphone, in the center of the foreground is a girl wearing a blue hat. The next scene shows a closeup of Nelson Eddy wearing a blue shirt of the same hue, placed in the same position on the screen as the girl's blue hat was in the preceding scene. Artistic color-continuity was used throughout "Sweethearts" and was a lesson to all amateurs and most professionals.

The artists who prepared the color plan for this film understood a physical law known as "after-images". These "after-images" are caused by eye fatigue. We know that if we look at the bright filament of an ordinary electric light, then suddenly turn from it and look at something less brilliant, we can still see the image of the filament. It does not immediately pass away, and is known as an "after-image". This excitation occurs in a mild form when we perceive each change of scene in a colored moving picture, and has the effect of making colors appear lighter or darker than they actually are. This is the point that interests movie-makers: if we tire the eye with a brilliant color—orange for example—in one scene, then follow with a cut to a bright blue (the complement of orange), this second color will appear brighter. This proves that the appearance of each color in a scene depends on the "after-image" formed by the preceding scene.

These remarks on "after-images" are included to stress the point that large

masses of brilliant colors should be avoided and that some effort should be made to match colors that appear in particular spots of successive scenes. Amateurs are not always in a position to arrange sets as professionals are, but if they are filming a story that contains characters, color-continuity can be picturized in the choice of costumes, locations or even props.

When the film is to be a scenic, holiday or documentary, harmonizing colors is more difficult, but the amateur can try, and sometimes this result will be attained. If it is thought necessary to splice two scenes together that differ in color-continuity, it may be possible to separate them with a title, thus detracting the attention of the audience to the abrupt color-transition.

When we become color-conscious we learn that even on brilliant cloudless days, the light we know as white light varies in color. Hot days might contain a slight haze, smoke or dust in the atmosphere, which affects every color, while the first fine day after rain will cause each object to appear brilliant and the sky will be a deeper blue. This variation will be noticed if a sequence contains more than one day's shooting, or if successive scenes appear on the screen that were filmed at different periods of the day. To overcome this difficulty we must try to shoot each scene in the sequence that will appear on the screen.

Another word of warning about matching of colors. The development of color-film is intricate, and the slightest variation in the dyes used when the film is being processed will affect the reproduced color-values. Therefore it is advisable to have each sequence shot with one batch of film and processed together.

Another discovery professional production-companies have made is that we, as the public, are not always anxious for colored features; we like a few colored shorts on the program, but can tire of lengthy colored films. It is doubtful if an exhibitor would risk a whole program of colored films, yet some amateurs use nothing but color, unmindful of the fact that millions of people have proved to professional producers that the use of colored film is limited and that a good story is not necessarily strengthened by the addition of color.

When the serious amateur learns to appreciate the limitations of color and profits by the experience gained by professionals, it is my opinion that he will return to black-and-white film for most of his pictures, and use color film not just because it is color but because it is needed to make a particular story more forceful.

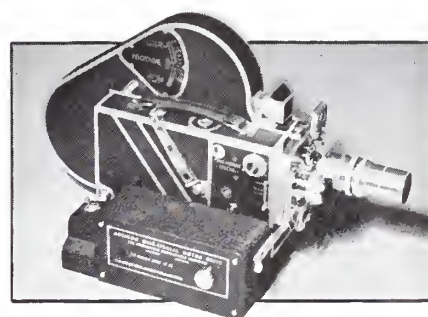
The writer suggested to amateurs in a previous article on picture composition that they take a walk through the local Art Gallery when in a reflective mood. Again the suggestion is made, this time they are asked to notice that artists do not choose subjects merely because they are colorful. You will not see picture after picture of sunsets and

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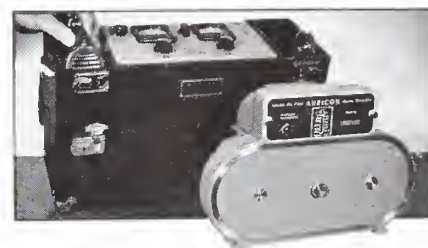
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people walking around beds of flowers. Artists choose scenes firstly because they tell a story, secondly because they have picture composition. Each scene depicts a time of day that does not have either contrasting lighting or contrasting shadows. If your Art Gallery contains work by some of the great Masters, you are indeed lucky. If not, look round for some of their work which has been reproduced. Prints known as Medici Prints are sold in all English-speaking countries and many reproductions of masterpieces can be bought for a small outlay. A landscape painted by John Constable titled "Flatford Mill" should have particular appeal to amateur cine color-workers. In general, any original or reproduction of paintings by Constable, Corot, Whistler or Turner, are recommended.

It is an optical law that different colors in one scene will focus on different planes if a lens has not been designed to correct this fact, which means that a cheap, inferior-class lens will not show texture and detail in all colors, but good high-class lenses are color-corrected and give maximum sharpness over the whole area of a picture and are essential for all color work. But they must be kept clean!

Most titling technique used for black-and-white filming is adaptable for color-work, but backgrounds for colored films should not be vivid or even brilliant: they should be of a pastel shade, preferably of the predominating color in each of the scenes the title is to separate. White letters on simple backgrounds which do not attract attention are best. Titles may be superimposed if the let-

ters are written on a black background photographed, the film removed from the camera, rewound in a dark room and again exposed on a suitable background or the titles may be lettered on clear celluloid and placed over a background that might be used throughout the whole set of titles. Black or ornate backgrounds should be avoided.

If a film has been shot with regard to color-continuity, it will be easier to edit than a collection of snapshots. Most editing and titling technique used for black-and-white films is adaptable to color pictures, but more care and thought are necessary. White cotton gloves are recommended, as color-film seems to attract finger-prints, and the slightest scratch will reveal an unwanted colored flash on the screen.

When cement is applied to a join it should be left to dry thoroughly before the film is wound on a spool. Wet film-cement should not be allowed to come in contact with the surface of color-film, otherwise it will dissolve its first layer and cause an unwanted red flash to appear on the screen. Be economical with film-cement. Be sure that the scraper does not remove more emulsion than is required to make a perfect lap, and that the blade or file is set deep enough to remove *all* layers of color. **END.**

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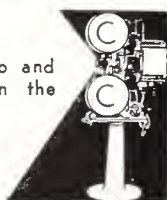
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Summer Camp

(Continued from Page 336)

jinks around the blazing campfire, put on special Saturday-night shows with camp-recruited talent in dining-hall or playhouse. And if there's electricity available to power a projector, a split-reel camp movie, perhaps a simple scenario enacted by campers, burlesquing camp routine and personalities, could be a real entertainment high-spot. With a little undercover rehearsal, such a film could even be made a talkie, with the players reading their lines from behind the screen. If it got "out of sync" the effect would still click with a carefree audience bent on amusement rather than technical perfection!

As a matter of fact, one of the best amateur scenario-films ever made was filmed in a summer camp. It was "Tarzan, Jr.," with which William A. Palmer and Ernest Page captured the Grand Prize in the first AMERICAN CINEMATOGRAPHER International Amateur Movie Contest, nine years ago. It told of a small boy's summer in camp, and how even though he was perpetually slighted and razzed by thoughtless older campers, he eventually came through the hero of the lot. In it, one of the older boys brought his movie camera to camp, and conceived the idea of making a movie; so much of the footage was devoted to comedy scenes burlesquing Hollywood as the youngsters made their own version of "Tarzan," with the wistful little hero always hoping for a chance to run the camera, but never getting it until, after the last shot of the camp epic is finished, he is condescendingly allowed to carry the camera

back to camp. En route back, as he pretends for a moment to be shooting the camera, he and his faithful dog have an exciting brush with two tough-looking adults. The climax of the film is reached with the presentation to an audience of campers and guests of this film-within-a-film—very cleverly handled, too, by the way—and the screening of the young hero's accidentally-made shots of the toughs, who are recognized by the local Sheriff as badly-wanted bank robbers. And the final fade-out, of course, shows the youngster, reward-money in hand, going into a photo-supply store to purchase a camera.

The two young chaps who made that picture simply fictionalized events which might very easily happen in a summer camp. They made a story out of it which has interested audiences all over the world where the film has been screened for movie clubs and similar groups. But they did more than that: they made a record of the places and personalities they knew during their summer in camp—sugar-coating it, perhaps, with fictionalized entertainment—but a record, none the less, which helps them re-live a very happy summer, strengthening memories of fellow-campers who have since grown up and scattered, as might be expected, all over the four corners of the nation. But on the screen they live and move again—not merely standing around and looking embarrassed, but doing things that are interesting and characteristic. And that, no matter how you may disguise it with fictional or serious documentary embellishments, is what makes a well-made camp movie worth making—and increasingly well worth owning in years to come. END.

Idea Exchange

(Continued from Page 339)

to which the three legs are pivoted. The disc has three projections, each one of which, as shown in the sketch, fits between a pair of the wooden members forming a leg of the tripod. I attached this disc permanently to the tripod; with some types this can be done very easily, by boring a ¼-inch hole in the center of the disc, and using a slightly longer ¼-inch bolt in place of the one which holds the tilthead on the tripod.

I completed the gadget by inserting a strong metal rod through the tripod-legs, as shown, a few inches from the top. The positioning of these rods governs the maximum spread possible with the tripod's legs. In use, you simply open the tripod-legs until the metal rods hit the projecting corners of the wooden block; the legs can't spread wider than this, and accordingly can't suddenly slip or spread and spill your camera.

JACK MAZZARD.

Central Camera Co., of Chicago, has just issued its new summer catalogue, a free 64-page booklet of bargains in cine and still cameras and equipment.

Showcase

(Continued from Page 341)

The complete set consists of 44 double-faced 10-inch records, and is known as Set E-66, and lists at \$50. The individual records may be purchased for \$1.50 each.

The records are 10 inches in diameter, with the same recording on both sides, thus giving the advantage of double wear and, incidentally, eliminating the confusion of accidentally putting the right record onto the turntable in a darkened projection room—and putting it on wrong-side up! The recording has been done at the standard home-phonograph speed of 78 r.p.m., and the individual effects vary from one to 3 minutes in length, depending on the character of the effect involved. The effects are separated by a blank space so that the operator can pick out the desired sound-effect without difficulty.

Since these records were made primarily for use in broadcasting stations, theatres and the like, there appears to be no restriction as to public or commercial use of these recordings. They may be obtained directly from RCA-Victor, or ordered through any RCA-Victor dealer.

Vaporated Films Survive Fire and Water

Four reels of motion picture films were in the State District Health unit at Mt. Sterling, Illinois, when the offices were destroyed by fire in January, 1940. The films were in metal containers so the flames didn't touch them, but the cans were blackened in the fire.

Three of the reels were Erpi Classroom Films, and were Vaporated for Erpi before delivery to the Health Department. Untreated inner and outer leaders were attached to these films after they arrived in Illinois.

The leaders, both inner and outer, were ruined by heat and water. The Vaporated films on the same reels were not damaged in any way. They were put back in circulation, and according to the Vaporate Co., have continued to give satisfactory service.

Royal Tripod Improved

A number of important improvements have been incorporated in the 1941 model of the Royal Tripod, according to Albert Specialty Company, the manufacturers. The Royal now features a new plastic cap on the head. Besides providing a non-slip base for a camera, this blue-black head improves the appearance of the tripod and adds an interesting color contrast with the chrome finish of the tripod legs. The tilt head has been redesigned in the interest of greater utility. It is now provided with an adjustable camera screw which can be lengthened or shortened to accommodate camera screw sockets of various length.

When cutting off short lengths of 35mm. minicam film for immediate processing, waste will be prevented if the original leader strip is cut from the exposed portion and cemented to the unexposed portion, all in the dark, of course. Several of the types of film-cement sold for substandard cine use will work well on the 35mm. nitrate film for this.

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EDITOR'S NOTE: This production-tested scenario proved its merit by winning its maker First Prize in the Los Angeles 8mm. Club's recent uncut film contest. As Cramer filmed it, "Never Again" made an excellent 50-foot 8mm. reel with sure-fire audience appeal. We like it particularly because it can be filmed very easily, with a minimum of

characters, props and similar problems. It is also a very good object-lesson in the importance of keeping a character's motion across the screen consistent until he is shown turning or otherwise given a definite reason for moving in another direction. Notice how the little boy moves from right to left until a change of camera-angle has him coming straight into the camera, and then after his smoke, he goes from left to right, after which his father carries him back to the house, moving in the opposite direction—i.e., from right to left—on the screen.

MAIN TITLE "NEVER AGAIN"

Scene 1: Long-shot. Two men come out of a cafe.

Scene 2: Two-shot. One man offers the other a cigar. The second man refuses the smoke, and starts to talk, pantomime indicating height of a small child—

TITLE:

"WHEN I WAS ABOUT NINE
YEARS OLD, —"

Scene 3: Medium-shot of a small boy in overalls, standing beside a table on which may be seen an old-fashioned kerosene lamp and a box of cigars. He looks furtively about, to see if he is observed, and takes a cigar from the box.

Scene 4: Close-up, from slightly low angle, of a kitchen shelf. On it may be seen a can of preserves, pepper and salt-shakers, etc., and a box of matches. The boy's hand reaches up and takes a handful of matches from the box.

Scene 5: Long-shot of the boy sitting on a farmyard fence; horses, etc., in the background if possible. He pretends to smoke the cigar. Finally he jumps down from the fence and exits left.

Scene 6: Long-shot. The camera follows the boy as he walks under trees, going from right to left.

Scene 7: Long-shot. The boy enters in the background, under a framing arch of trees, and advances, cigar in mouth, to the camera until a close medium-shot angle is reached. He looks around to see if he is observed, then exits right.

Scene 8: Long-shot, in farmyard. The boy enters from left, camera following, and he finally seats himself on a box concealed by a handy fence. He puts the cigar into his mouth.

Scene 9: Medium close-up of the boy. He scratches a match and lights the cigar.

Scene 10: Close-up of boy, smoking. He is a bit nervous. FADE OUT.

Scene 11: FADE IN. Same as Scene 10, but the cigar is half smoked away, and the boy looks rather distressed. He becomes increasingly so as the scene progresses. Finally he gets up and exits to right.

Scene 12: Long-shot. The boy stagger unsteadily away from the camera moving from camera-left to camera right.

Scene 13: Medium long-shot. Walking slowly and unsteadily, the boy approaches the camera. FADE OUT.

Scene 14: FADE IN. Close follow-shot of the boy, moving from left to right, still smoking the cigar, but without much pleasure. Finally he leans against a fence, quite exhausted.

Scene 15: Long-shot. The boy wanders slowly and very unsteadily across the farmyard, slowly approaching the camera. Finally he collapses across the tongue of a hay-rake or similar implement in the foreground. FADE OUT.

Scene 16: FADE IN. Long-shot. Father is seen carrying the limp form of the boy, moving toward the camera and from right to left.

Scene 17: Close-up of the boy in bed. A feminine hand puts a cold compress on his forehead.

Scene 18: Close-up of a bottle prominently labelled "Castor Oil." Feminine hands uncork the bottle and pour out a big tablespoonful. (Note: White "Karo" syrup doubles excellently for castor oil in this scene, and will get much better cooperation from your young actor!)

Scene 19: Same as Scene 17. Mother's hand enters with the spoonful of castor oil and administers it to the boy. His facial grimaces show what he thinks of it!

Scene 20: Big-head close-up of the boy. He looks wan and unhappy, and his lips move.

TITLE:

"NEVER AGAIN!"

Scene 20-a: Same as Scene 20. The boy finishes speaking. FADE OUT.

Scene 21: FADE IN. The two men shown in Scenes 1 and 2 are walking along the sidewalk, smiling and talking. They approach the camera, still talking, as the non-smoker obviously finishes his story. FADE OUT.

TITLE:

THE END.

The lens plant of the Eastman Kodak Co. has developed a new type of optical glass reported to have an unusual refractive capacity. Instead of the silicates heretofore used, such rare metals as tantalum, tungsten, lanthanum, etc., are used in making the glass. Lenses made from it are reported to require far less curvature and to procure better definition and covering-power with no loss of lens-speed. The new glass has been used in aerial lenses made for the government during the past year, but some time may elapse before it is available for general photographic use.

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Plan For Sound

(Continued from Page 331)

professionals did, and go to sound-on-film recording. This is at present only possible in 16mm.

Recording direct-synchronized sound is outside the scope of this present article, though with a recorder like the Auricon, for example, it isn't by any means beyond the skill of the amateur who wants to acquire the necessary equipment. But sound can be added to any 16mm. film after the film has been processed and edited.

To do this, you simply take your edited film to any of the several 16mm. sound-recording studios in various parts of the country, and record your musical score, sound-effects and narration with projector and recorder operating in synchronism. A positive print is then made of this sound-track record, and sound and picture are "duped" to a third film to form your composite sound-and-picture projection film. This naturally adds to your expense; putting sound to a 400-foot reel of 16mm. Kodachrome costs slightly over \$100; but you then have a perfect sound-film reel in color, which can be run on any 16mm. sound-film projector, and will always be perfectly in sync.

It is interesting to note that over in England, just before the war, a special 16mm. sound-system for home use was developed with the aim of eliminating the extra cost of making the composite sound-print which adds so much to the cost of substandard sound-filming. This device consisted of a special base upon which a Bell & Howell sound projector could be mounted, and which was fitted with arms to hold extra feed and take-up reels. In use, the silent picture-film was threaded through the picture projection

mechanism in the usual manner, and taken up on the auxiliary take-up. The sound track film was placed on the extra feed spindle and threaded past the sound aperture to the projector's regular take-up. If both were started at marked starting-points, both would naturally stay synchronized from start to finish. The sponsors of this system claimed, too, that sound for use with it could successfully be recorded and reproduced at the silent-picture speed of 16 frames per second instead of the usual 24-frame sound speed. While offhand it would seem that with the film moving at this slower speed there would be quite a loss in the high frequencies and hence in intelligibility and quality, there would certainly be a saving in film-footage which would be welcome to most home-movie makers. There would also be the advantage of being able to add sound to films shot at silent-picture speed without unnaturally speeding up the action as is the case when pictures shot at 16-frame speed are projected at 24 frames.

But regardless of what method of adding sound to your films you may choose, you'll get better results if you plan your films for sound beforehand, rather than shooting haphazardly and adding sound as an afterthought.

Speaking generally, you'll find it a good idea to make your scenes a bit longer than you would for a silent picture, and also, to cover each place or action with especial thoroughness, getting plenty of different camera-angles for use in cutting.

The reason for this is that shooting this way, you can be more sure of having sufficient picture-footage of each place or action to synchronize well with the narration describing it. After all, if you're going to the trouble of sounding a picture, you don't want to have scenes

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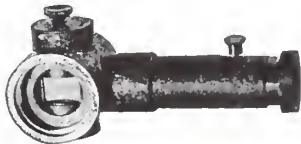
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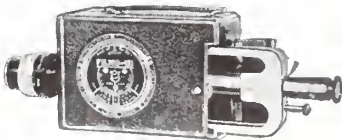
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2 "	4 "	6 "		10	25
3 "	6 "	9 "		15	37
6 "	12 "	20 "		30	82
12 "	24 "	40 "	1	00	164
25 "	50 "	77 "	2	05	325
33 "	66 "	100 "	2	10	416
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so short that the narrator can speak only a dozen words while they're on the screen but which call for twenty-five or thirty narrated words for proper description! My suggestion would be to plan for a *minimum* scene-length of 10 seconds (more is even better). This means 2 feet of 8 mm. film, 4 feet of silent-speed 16 mm., and 6 feet of sound-speed 16mm.; it gives the narrator time to speak about 25 words. The accompanying table will help you reduce scene footage to narration wordage for any method of sounding. Bear in mind, though, that it shows the *maximum* number of words: an ordinarily slow talker won't be able to get nearly as many words into a given time as the table indicates. You should also plan for definite pauses in narration between sequences, etc.

If your film is going to be a record of a vacation trip, it is a very good idea to make notes of all the interesting facts about the place before you shoot. This pays dividends in two ways: it gives you information you'll need when you come to plan the narration, and it can also give you useful advance information as to the interesting things to shoot in that locality.

Speaking generally, you'll find it a good idea to shoot your scenes long, as suggested, and plenty of them. Then when you come to edit your picture, assemble them roughly, without any attempt to shorten or intercut them. Now run your sequence and time it, figuring out how many words you can get into that much running-time. Then map out your narration, keeping within that maximum number of words, and covering the subject completely. When this is done, you can then finish editing the sequence, shortening and intercutting scenes for maximum effectiveness and fitting the succession of pictures to the narration. You'll find it's much easier to build a sound sequence this way than to attempt to fit narration to a picture-sequence which may be too short, too long, or wrongly edited for the explanatory wording which must accompany it!

Obviously, too, if you are going to use 16mm. sound-on-film recording, you should plan for it ahead of time and shoot your picture at 24-frame speed so the action will be normally paced when run on a sound projector.

If you are shooting Kodachrome for sound-on-film use, look ahead to the fact the film will be duped, and expose so you can be assured of the best results in that dupe. Overexpose a trifle, to give the open shadows and soft colors and contrasts that make the best dupe. The easiest way to do this is to use a meter speed-setting one or preferably two points below the one you'd ordinarily use for Kodachrome—with a Weston, 6 or 5 instead of 8.

But, no matter which method you may decide to use, try adding sound to this summer's vacation films. Hundreds of cinefilers all over the country have tried it, and discovered that not only

does it add measurably to the effectiveness of their films, but it opens the way for new pleasure in the hobby of making and showing home movies! END.

Photograph of the Month

(Continued from Page 327)

THE PARSON OF PANAMINT

Paramount Production.

Director of Photography: Russell Harlan, A.S.C.

"The Parson of Panamint," though laid in a western locale, is not a "western" in the accepted sense of the term. Therefore cinematographer Russell Harlan, A.S.C., does not get the conventional "western" pictorial opportunities for effectively-filtered scenes of fast-shooting riders silhouetted against pictorial clouds, and the like. But he does get abundant opportunities for interior effect and character lightings, which he does with uncommon skill. His treatment of the film's actually rather plain and inexpensive interiors adds greatly to the film's production value and dramatic strength, while his treatment of the players—especially Ellen Drew, who seems to be improving photographically with each appearance—is first-rate.

The film has some interesting process work, especially in the way process-shots and location exteriors are skillfully intercut.

Direction is another noteworthy feature of the production. It makes use of visual tempo and visual dramatic tricks to a degree seldom seen in modern sound-films, and in this respect could certainly serve as an instruction-book for many a more pretentious production. In this connection it is more than ordinarily significant to observe that the director, William McGann, is a former member of the A.S.C.—a fact which

bears out our contention that a world of invaluable director-material is going to waste behind the industry's cameras, while vast sums are being spent attempting to make directors out of raw newcomers from every other field.

THEY MET IN BOMBAY

Metro-Goldwyn-Mayer Production.

Director of Photography: William Daniels, A.S.C.

The name William Daniels, A.S.C., on the credit-title of a film is an almost unfailing guarantee of smoothly-finished photography to follow. "They Met in Bombay" does not offer Daniels the photographic opportunities that some of his other recent productions have, but none the less he makes it pictorially delightful. There are some extremely interesting and effect-lightings in the opening sequence in the deLuxe hotel in Bombay, and as the action moves on to the Chinese tramp steamer, Daniels has opportunities for many excellent atmosphere effects. His treatment of the concluding action-sequence is a model of tastefully conservative camerawork and restrained filtering which for its very unobtrusiveness deserves study.

Daniels' treatment of the players—especially Rosalind Russell—is excellent, as always. There are several special-process sequences which are definitely above the studio's usual average.

Academy Acoustic Bulletins

Two new bulletins dealing with sound-film acoustic problems have been published by the Research Council of the Academy of Motion Picture Arts and Sciences. One deals with acoustical design and construction of motion picture theatres. The other deals with reducing acoustic difficulties on motion picture sets.

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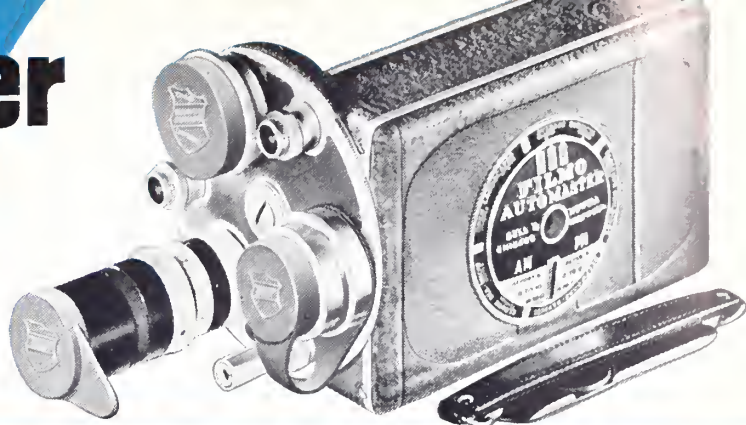
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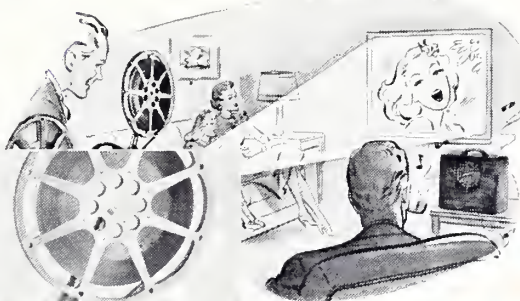
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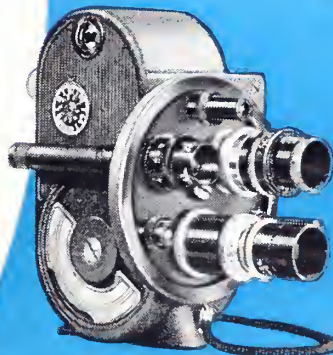
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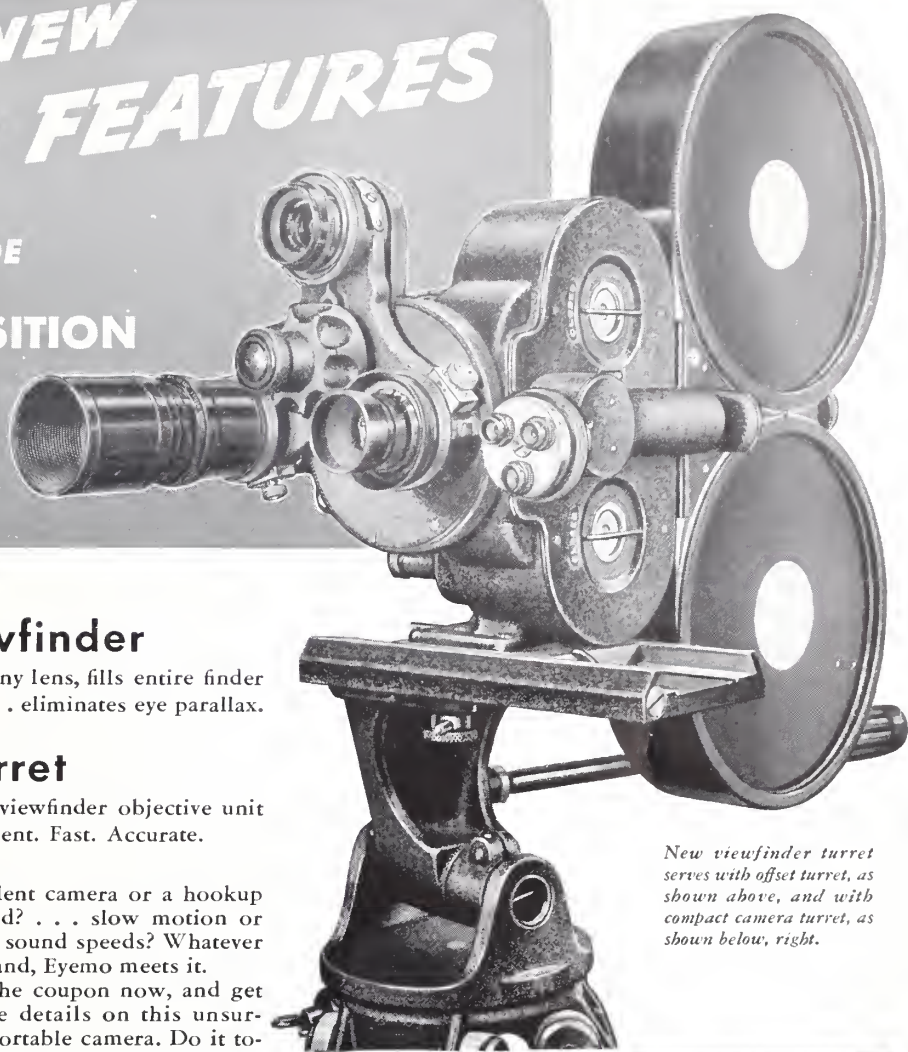
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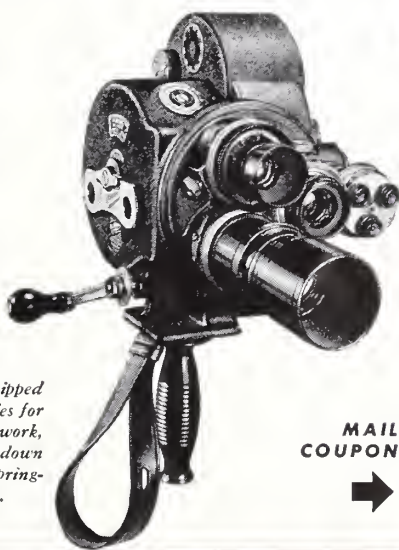
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THE MOTION PICTURE CAMERA MAGAZINE

VOL. 22

AUGUST, 1941

NO. 8

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The Front Cover

This month's cover shows Charles Lang, A.S.C., (right, adjusting lamp) making a low-angle dolly-shot of Gene Tierney for Walter Wanger's "Sundown." Note use of umbrella to shade camera, and effect of "booster" lamp on players—especially in case of negro at right, who is partly in lamp's beam, and man at left, who is not. Still by Ed Henderson.



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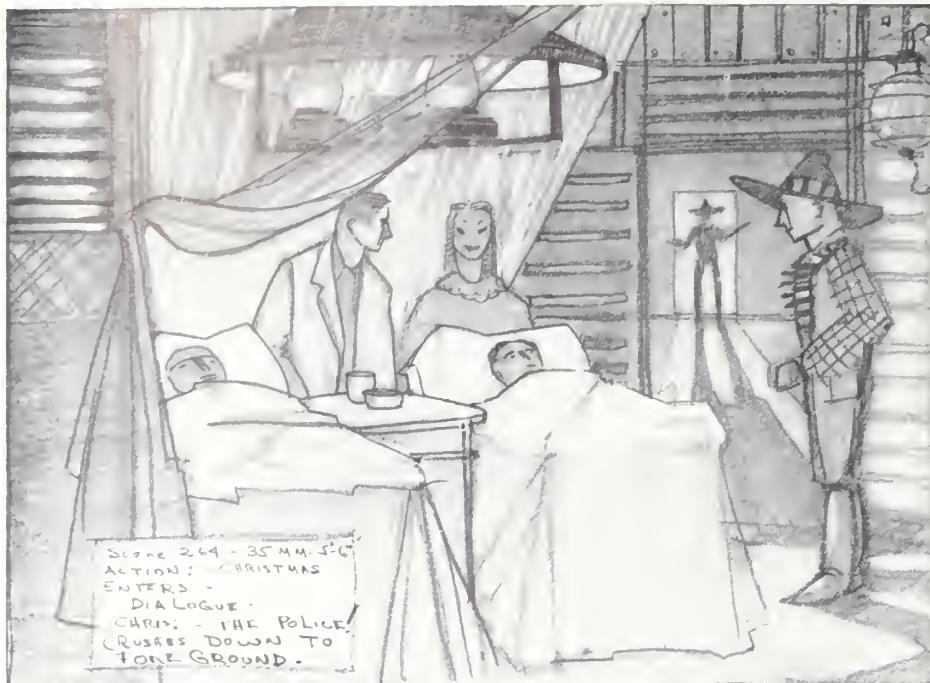
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Pre-production sketch made of a scene of Wiles' production "Forced Landing." Note how lens-angle and height are specified.

Let's Design Pictures For The Camera

By GORDON WILES

WE hear a great deal nowadays about "designing" productions. It has become quite a fad among our art-directors to take their screen-credit with the phrase "Production Designed by Joe Doakes," instead of the old familiar "Art Director, Joe Doakes." But—always with the exception of William Cameron Menzies and one or two other equally outstanding members of the craft—we see precious little real "production design" on the screen.

As a matter of cold fact, we are really getting less real "art direction" than we did a few years ago, for as a glance at the credits of almost any current production will show, what we used to lump together as art direction has now been divided into two specialized departments—set design and set dressing. And inevitably, with two specialists working this way, there's often an urge for each to try to out-shine the other, with the result that, as Director René Clair pointed out in a recent article in *THE AMERICAN CINEMATOGRAPHER*, "sets are over-dressed; they contain so much 'realistic' detail that the audience's attention is distracted from the story-action."

The trouble is that since sound came in most of us—not only art-directors, but directors, producers and writers alike—have forgotten the camera. Oh yes, we've realized it had to be there to record the action that accompanied our dialog, but we've forgotten the camera's ability to tell stories which, when silent films were at their peak, had made the motion picture a distinct form of art. It wasn't painting; it was distinctly different from the theatre; but it told stories in a way that had gained it world-wide recognition as a new and distinctive art.

Sound came, and gave this new art-form the ability to speak. And straight-away we became so engrossed with appealing to the audience's ears that we forgot their eyes, and the fact that at least 75% of man's strongest impressions of anything come visually rather than aurally. Furthermore, we were hypnotized by a new race of magicians—the sound engineers. They knew all about sound (so they said then). We didn't. They told us we couldn't do this, that we must do that; that we would have to do things this way—for the microphone—rather than that

way—for the camera—and we did. While we've lately come to realize that the sound-men are just human beings like the rest of us, and can get acceptable recordings even under conditions they originally shouted were impossible, a vast deal of damage has been done, for most of us have lost sight of the tricks of visual story-telling which, coupled with an imaginative use of sound, could give our pictures ten times the "punch" most of them now have.

So today the majority of our art-directors have become more truly architects than designers of pictures. Our writers have become more interested in dialog than in visual effect. Our directors have become more concerned with the reading of lines and basic action than with visual story-telling.

But there is one man in the troupe who still is, and always has been more concerned with the visual and its dramatic value than with anything else. He is the cinematographer or director of photography. For fourteen years he has been in there fighting for all he was worth to preserve the vital visual side of our medium. Speaking both as a director and as an art-director, I think it's time he got some help from the rest of us! I'm by no means unselfish in this: I know that by taking full advantage of the cinematographer's understanding of visual dramatics, any director or art-director in the industry could make his own contribution to a production more telling, and gain credit for being associated with the making of a better picture than would otherwise be possible.

What is the best way to take advantage of this? I feel it is by developing a system of three-cornered pre-production planning, in which the director, the art-director and the cinematographer would work together on a script, translating it from written words to visual pictures.

As an example, suppose we have a script, fourteen pages of which are laid in a dining-room. How do we go about bringing that to the screen today?

The art-director gets the script and sees the notation that such-and-such scenes take place in this dining-room. He checks up a bit as to the social and economic standing of the character in whose home that dining-room is supposed to be, and decides, let's say, that it should be a Georgian dining-room. So he makes a rough sketch of a Georgian dining-room and submits it to the director, with a more or less rough floor-plan. The director sees that this contemplated set won't interfere particularly with his planned action, and OK's the sketch.

Then our art-director proceeds to build a beautifully realistic Georgian dining-room. The set-dresser inspects the set, sees it is of Georgian period, and pro-

Production still of the same scene as filmed. Note how closely Director Wiles and Cinematographer Alton followed their pre-production plan for the scene.



of the action—a plan in the preparation of which he participated personally. Of course he will to some extent vary his actual shot from the pre-planned sketch as minor changes in casting, costuming, and so on make slight changes in camera-treatment necessary. But he'll have something tangible to work from—a carefully thought-out basis for good, graphic compositions, rather than having to snatch things out of thin air at the last minute.

The director and cutter will find the flow of action on the screen smoother and more natural. In all probability this type of planning will do much to minimize or eliminate the need for "protection shots," for the advance study and collaboration that goes into making such a sketched-out plan will inevitably give a good indication of what angles will be needed in the final cut, and what won't. This should save a great deal of valuable time on the set; in some cases, it can simplify set-construction, eliminating simplions needed for "protection" angles, and naturally saving on set-cost.

In any event, both director and cinematographer will be able to do their work quicker and better because of the time they've spent planning out each detail beforehand.

And—perhaps the greatest advantage of all—the results on the screen will be more visually compelling. Each cut, angle and set-up will have been carefully planned beforehand to put the maximum of visual dramatic value on the screen. In some instances, this technique may well lead to minimizing dialog; but in any event the picture will have more "punch" because the visual impact of each scene is a thing

of careful planning rather than luck.

It may be objected that a system like this represents an ideal, which can't be attained under actual production conditions. Those who raise this criticism are simply overlooking the fact that in isolated instances *it has been done and is being done*. William Cameron Menzies almost invariably works this way; I am sure he is doing so on his current film, "King's Row"—and that Director Sam Wood and Director of Photography James Wong Howe, A.S.C., are turning out a more forceful picture because of it. Some few others have to varying extents used and benefited from this system. I have employed it myself on a number of productions, both as director and as art-director.

As a matter of fact, the most discussed picture of the year—Orson Welles' "Citizen Kane"—must inevitably have made use either of this system or of something very closely like it. Whether you like the picture or not, you cannot deny that from start to finish there was a sincere—and in the most part, successful—effort made to coordinate the visual presentation with the dramatic. And everyone in the industry has commented on the fact that "Citizen Kane's" young producer-director, Orson Welles, embarked on this production with no previous motion picture training and proceeded to do things with camera and microphone which the rest of us, whether or not we may have inwardly regarded them as technically possible, had certainly failed to do.

To my mind—and with no intention of detracting from Welles' admittedly great ability—the greatest factor in his film's

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ceeds to dress it with furniture and props of the correct Georgian design.

Finally the set is completed and the picture is probably well into production. And the cinematographer at last comes into that set. He comes on cold. Nine times out of ten, he's never seen it before—and the tenth time he has had opportunity for only a glance the night before as he makes a quick survey to tell his gaffer how he wants the set rigged for the next day's shooting.

But when he finally comes on that set, the director of photography knows one thing. He has, as we've said, some 14 pages of script to film on that set. But he doesn't deal primarily in written or spoken words. To him, those 14 pages of script mean from 28 to 60 or more camera-setups. Or, to put it more accurately, between 30 and 60 *compositions*—compositions which must be artistically good and dramatically telling. Maybe more, if the camera is to dolly or ride a boom.

Now I flatter myself that as an artist I know a little something about composition. But I know very positively I could not walk into any set or room "cold" and create 60 compositions at the snap of a finger. Certainly not 60 which were both artistically sound and dramatically forceful.

And while our directors of photography are faced with that sort of problem daily, I don't think they're very much more successful at it. Heaven knows, they're greater artists than most of us give them credit for being, and trained from long years of experience to sense compositions almost instinctively. But I'm sure that most of them will candidly admit that in such a situation they'd emerge with perhaps a dozen or so really good compositions, and the rest mediocre or worse.

On the other hand, suppose the director of photography had had the opportunity to work on the final stages of that script's pre-production preparation with the director, the art-director and the writers. Between them they could work out a visual breakdown—script for every bit of action occurring on that set. They could sketch things out, planning each cut, movement and camera-angle for composition and dramatic value *before an inch of film was shot*. They could walk on the completed set, not faced with a problem of snatching compositions out of thin air and planning dramatically graphic action on the spur of the moment, but with a complete visual script ready-prepared beforehand, with each cut and set-up carefully sketched out—and the set and its dressing planned for it.

This sort of arrangement will have any immediate advantages. In the first place, as might be expected, the cinematographer will have an accurate plan of his compositions on every phase



Gaffer Ralph Owen operates the lighting switchboard.

A Versatile New Lighting-Control Switchboard

By HAROLD NYE and MICKEY MORAN

Electrical Dept., Warner Bros.' Studio

FASTER films have resulted in a considerable decrease in the amount of light used in motion picture photography and smaller lighting units are becoming more and more popular. Spots and floods as small as 100 Watts have become standard equipment.

In the past, when using the larger units for foreground lighting, it was customary to balance the lighting by choosing lamps of the proper types and moving them in and out and adding diffusion until the proper intensities were arrived at.

The introduction of smaller and more efficient types of lighting units has made the use of theatre dimmers an excellent method for balancing light intensities. Much time is saved in making the set-ups and the light-values can be changed any time during the action as the actors move about, or when dollying from a long-shot to a close-up.

Some cinematographers have practically eliminated diffusion on foreground lamps, resorting to it only when the lamps have to be dimmed so much that the color becomes too red. This results in considerable saving in diffusion media.

At first a few single plate-dimmers were used to control the more important lamps. When the lamp was too small for the dimmer to take down, additional lamps off the set were plugged in, to "ballast" or load the dimmer down. This consumed time and tied up equipment.

Demands for more and more dimmers on every set, and increasingly complicated dimmer-controlled lighting set-ups soon made it apparent that the old, make-shift methods must go. To meet modern conditions, a new and more versatile unit must be designed. The problem was crystallized when Bert Glennon, A.S.C., was assigned to direct the photography of "They Died With Their Boots On." After studying the script, Glennon realized that dimmers would have to be used extensively in almost every interior scene in this picture, for the majority of the men would be in the unreflective dark-blue U. S. Army uniforms of the Civil War and post Civil War period, while the women would be in lighter colorings, demanding constant adjustment of lighting intensities as the characters moved around the sets.

Handling this problem with conventional dimmer equipment would be extremely difficult and time-consuming. Therefore, Glennon urged I. M. "Slats" Combs, Chief Electrical Engineer of the Warner Bros.' Studio, to develop a more flexible unit which would meet these problems. Combs accordingly assigned the writers and Ralph Owen, who was to serve as Glennon's gaffer on the picture, to design and construct a portable lighting-control unit which would meet all these requirements, and save as much time on the set as possible.

The result was the lighting console shown in the illustrations. It is a compact, flexible unit and when in use is set close to the camera where the operator has a good view of the action and can also watch the director of photography.

Each of the eight control-circuits is numbered and when a lamp is plugged in, the operator hangs a tag bearing corresponding number on the lamp. When the gaffer or the cinematographer asks for a certain lamp to be brought up or taken down, there is no confusion on the part of the operator as to which control shall be manipulated.

The unit shown has four 650-Watt dimmers and four 2000-Watt dimmers and auxiliary equipment. The four dimmers on top of the unit are 650-Watt Ward Leonard type S.R.D. dimmers having 32 contacts. Indicators are attached to the handles of these plates so that the operator always knows what point the dimmer is resting on. Ballast lamps may be connected across any or all of these dimmers simply by throwing switches on the panel. These switches also light red pilot-lights on the panel so that the operator is always warned that he has the ballast across the dimmer. When loaded with a 250-Watt ballast, these dimmers will dim a 100-Watt lamp down to where it will not photograph.

The ballast lights (four 250-Watt on the 650-Watt dimmers and four 500-Watt on the 2000-Watt dimmers) are mounted in a well-ventilated, light-tight compartment *inside* the console.

While 32 steps on a dimmer are not enough to give flickerless dimming, any or all of these can be mastered through control No. 8 which has 110 steps. Mastering the small units through one of the larger ones has proved to be a very handy feature. The intensity of various lamps of the "Baby Junior" type can be regulated separately and thrown on the master after which all of these lights can be taken up or down together *without disturbing the balance*.

The control-panel for each of these dimmers consists of a circuit switch with a green pilot-light, a ballast switch with a red pilot-light, a fuse, and a transfer switch that is used to connect the circuit to the "hot" bus or through the master dimmer. Whenever one of the small dimmers is fed through the

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PICTORIAL, as well as dramatic, coordination between background action and foreground action is a seldom-discussed phase of picture-making—one of those “elementary” details we too generally take for granted. Yet it is of highly practical importance to both cinematographer and director, for it can make or mar a scene, both photographically and dramatically. And while it partakes of both direction and cinematography, neither can afford to dismiss the matter as wholly a part of the other’s responsibilities. Thorough-going and plain-spoken cooperation is needed. The director can deal with the strictly dramatic effects of what happens in the background, but he cannot always evaluate it in terms of its effects on photographic composition. Similarly, the cinematographer can deal with it as a phase of composition, but he cannot always consider it solely from this viewpoint alone. For the completely coherent result both are seeking, the two should work as closely together in caring for this detail as they naturally do in dealing with the broader aspects of their work.

It might easily be expected that pictorially intrusive background action might be more of a perplexing problem in the so-called larger scenes, in which sizeable crowds and mobs of people take part. Actually, I think the reverse is true. In making mob scenes and the like, everyone—the director and his staff, the cinematographer and his staff—are thoroughly conscious of the background and its action. They all watch closely to see to it that no small, unexpected movement (or lack of it!) in the background affects the perfection of the scene as a whole.

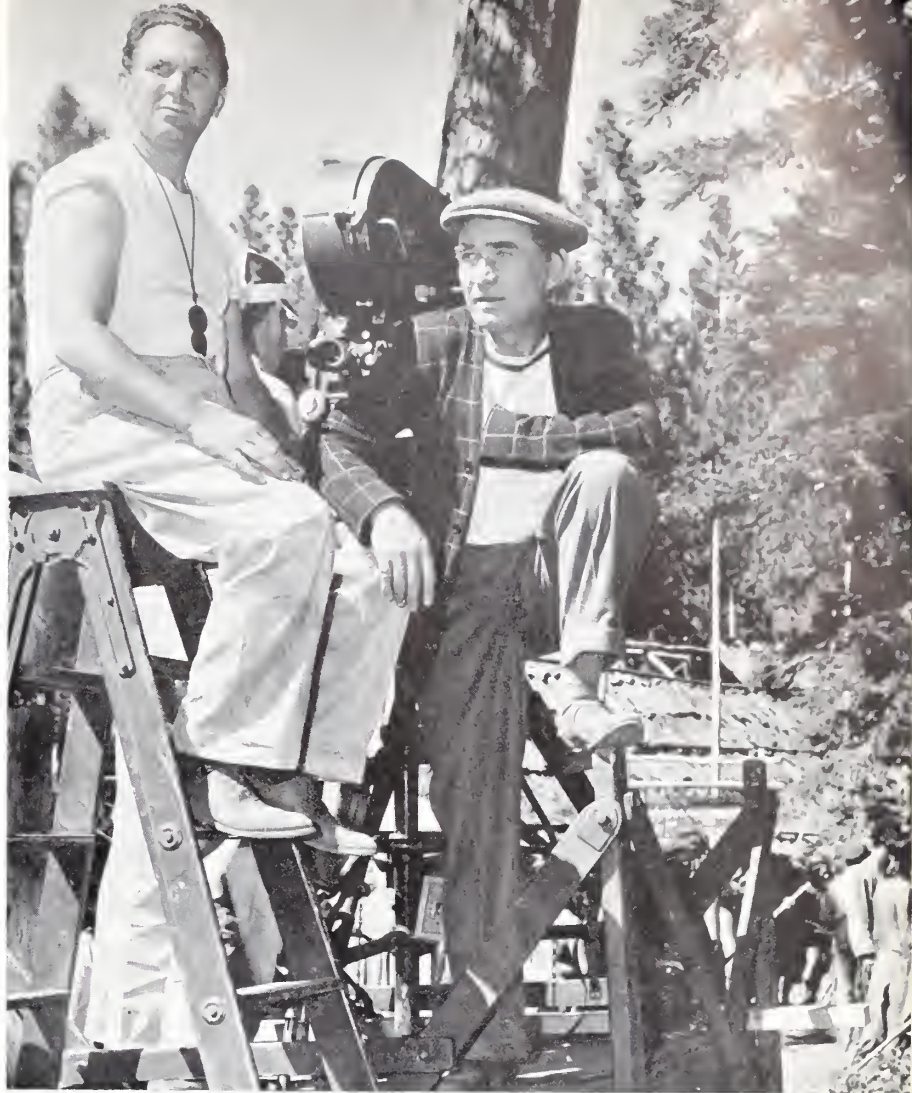
But in smaller scenes—those employing only a few extra players in the background—most of us are likely to be a bit off guard, concentrating more on the direction, action and lighting of the principals in the foreground. Then is when some of the most disturbing background errors creep in.

Perhaps the commonest faults of this nature is calling for action in the background, and not specifying what *kind* of action is needed to coordinate pictorially with your foreground action. Action of the wrong type or tempo can divert audience attention from any but the fastest-moving foreground action with amazing persistence.

For example, in one recent picture the leading man is shown singing a song in the music-department of a big store. Naturally, showing this in a two-shot angle, there should be some action in the background to produce a natural effect. But in this particular case, the dominant background action, repeated in several cuts, included a girl shopper descending a flight of stairs in the background. Every time that girl walked down those stairs the audience’s eye was forcibly jerked from the singer to this dramatically unimportant extra!

What happened was that those con-

Director Frank Lloyd (right) and Director of Photography Milton Krasner, A.S.C., discuss a scene for “This Woman Is Mine.”



Action In The Background!

By FRANK LLOYD

As told to Wm. Stull, A.S.C.

cerned in making the scene either forgot or overlooked the fact that the singer, even though nearer the camera and in better focus, was necessarily practically motionless, and so a visually passive element, while the sharply contrasting diagonal movement of the girl in the background was, compositionally speaking, a much more dominant element of the composition. In addition, this particular movement, beginning at the upper left-hand corner of the frame, was also more forceful compositionally, from its mere positioning. The same girl, quietly examining merchandise on an equally distant counter, or slowly moving about the store, would have been fully as natural for background purposes—and not visually intrusive.

In the same way, suppose we have a scene laid in a de luxe cafe. In reality, in such a cafe at a busy hour the waiters are likely to be rushing very briskly back and forth with their trays. But on the screen, if we had those waiters

moving at anything like the pace they would use in the real cafe, their swift movement would almost certainly “steal” the scene from our principals seated at a table in the foreground! To be cinematically effective, the action of waiters and “extra” diners alike would have to underplay reality in order to convey an impression of reality.

Incidentally, a smart cafe is a fine place for a director or cinematographer to learn about grouping. Go into any first-class cafe—especially during a moderately slack hour—and notice how skillfully the Maître d’hotel has scattered the patrons about the room. If he knows his business, there will be no grouping of guests in one place, with an ocean of empty tables elsewhere! Instead, he will see to it that there is a table or so in use in almost every part of the room, so that the incoming customer gets an impression of a well-patronized eating-place, even though com-

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CANADA'S WAR MOVIES

By CHARLES W. HERBERT, A.S.C.

WITH so many foreign fields closed to American newsreel and shorts producers by the war, good news comes from good neighbors across our northern border line. Understanding the needs of American producers, the National Film Board of Canada has opened the way for closer cooperation to the end that this summer will see the greatest production activity of shorts to date in Canada. Already scheduled and in part production are a dozen reels of various sections of the Dominion. Fox Movietone News plans a "Magic Carpet" of Eastern Canada, a Sportsreel of Eastern Canada and a War Effort reel. Pathe plans a "Sportscope," Paramount a War Documentary reel, Fitzpatrick a Technicolor reel on Ontario and another on Quebec. Columbia has released a travelogue on Quebec. The March of Time will do their second "Canada at War" feature and Universal will release a "Going Places" reel on Victoria, B. C. and produce a reel of Quebec and another in the Canadian Rockies. In addition Universal will break into the color field with some Canadian-made material.

Burton Holmes is now including a sweep across Canada in his motion picture lecture series for next winter.

All of this current activity ties in closely with the United War Effort Plan of Canada to not only acquaint the Empire with what Canada is doing for its part, but also to make a large bid for the American Tourist Trade.

For the first time American producers are being offered by Canada a full measure of cooperation and facilities so essential for the production of newsreel, travelogues, sports and documentary films.

Special invitations and inducements have also gone out to still-picture photographers and amateur movie makers in the United States. This manifold plan has been conceived and is being directed with the tireless efforts and skill of John Grierson, recently appointed Film Commissioner for the Dominion.

The National Film Board established in the Spring of 1939 thus embarked on

a career of urgently needed activity.

Grierson is a native of Scotland, has for many years been one of the foremost exponents of the documentary film and was previously the head of the film unit of the Empire Marketing Board and film-production chief for the General Post Office of Great Britain, with offices in London. He has travelled extensively in Europe and the United States and has a direct understanding of International film needs, methods and markets.

It is not a new thing for a Government to make motion pictures. There's hardly a country that has not seriously engaged in motion picture production through special film departments or along with local commercial producers. Various departments of the United States Government have produced and stored up a vast library of films. While most of these films have been circulated here and there and many are good, they were woefully lacking in two vital essentials for complete realization of the vast field of use that lies ahead of any newly-launched film. Like a ship they might sail on and on to the far corners of the world if they have the needed propelling force and guidance.

To attain the full scope of distribution a film must necessarily come up to the standard of technical perfection established by major producers. And it must be definitely entertaining.

It is these two qualities that have been lacking in most Government-conceived and produced films.

Too often, experts in their own field of endeavor—agriculture, trade, industry, education, etc.—have planned and produced films with little knowledge of motion picture technical or entertainment requirements. Their finished product has pleased themselves, their associates and followers, but has usually failed to attain theatre circulation or any extensive distribution where the public can see their work.

There is of course the exception of films produced by totalitarian Governments who demand that their films be consistently screened in the theatres in lands where their word is law.

The United States Film Service, under able direction of Pare Lorentz, with Floyd Crosby, A.S.C., cooperating on the camera, brought forth Government-pro-

Frame enlargements from Canada's War Films. Two pictures at top, troops leaving for overseas; third, aboard a Canadian destroyer; fourth, instructress in air-training plan; below, grain for Britain's bread; bottom, making textiles for the Army. Courtesy National Film Board, Ottawa.

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Filming an underwater scene. The camera is in the low tank attached to the barge; baby elephant being persuaded to enter scene at left, "Tarzan" family ready at right to dive into the scene.



Filming Underwater Movies From the 'Hole in the Water'

By LLOYD KNECHTEL, A.S.C.

FILMING the underwater scenes for MGM'S latest "Tarzan" picture provided, both technically and in other ways, one of the most unusual location-trips I have ever made. To begin with, Wakulla Springs, a secluded spot about 18 miles from Tallahassee, Florida, was chosen as the location—and it provided locationing deluxe! We lived in a beautiful resort-hotel, a very short stone's throw from the springs; going to work in the morning was a matter of prying ones' self away from a well-laden breakfast-table and walking perhaps a hundred yards to the shore. But once we reached that point, no matter which way we turned the camera above-water, it would be filming something that looked more like Tarzan's African jungle home than Africa itself! And a few feet below the water's surface we found what I am sure must be the world's finest "stage" for underwater movie-making.

Wakulla Springs is really more like a lake or river than the conventional concept of a spring: it is more than 185 feet deep at its deepest point, and it flows about 225,000 gallons per hour of the clearest water I've ever seen. With a white sand bottom beneath, an almost tropical sun above, and this crystal-clear water between, it is the ideal place for underwater photography.

We did our camerawork from a specially-built underwater camera-bell attached to a barge. Quite properly, they called the device "the hole in the water." It consisted of a round metal drum, weighted at the bottom with concrete. Steps led down to the floor of the photographing chamber, and the cameras looked out on the underwater scene through a thick optical glass port-hole large enough to permit lens and finder a clear field of view but not, unfortunately, wide enough to permit much panning. There was room in the camera-chamber for about three people and the camera; but this made it rather crowded, so during most of the actual shooting Director Richard Thorpe and I usually stayed above, leaving Operative Cinematographer A. L. Lane and Assistant Cameraman Harold Baldwin more elbow-room.

Since as the depth increases, the photographic light naturally falls off, and with it the distance to which the lens can penetrate the water, the camera tube was designed to keep the lens about 8 feet below the surface. For the same

reason we made most of our scenes shooting shoreward, to get the most pleasing background.

A very important item in handling underwater camerawork is to be sure that no strong outside light hits the inside surface of the camera port-hole to cause reflections. To make sure of this we covered the top of the tube with black cloth, and also fitted the tube with a wooden top and a sliding hatch.

Another very important matter is maintaining the proper temperature inside the bell. If the air inside grows too hot, the glass, cooled as it is by the cold spring-water outside, will steam up exactly as the windshield of a closed car does on a wintry day. We corrected this problem by placing electric fans inside the bell, powered by storage batteries, to circulate the air, while several hundred pounds of ice kept the inside temperature down to a point reasonably close to that of the water outside.

Not so many years ago, in making the early talkies, we used to lock the

Operative Cinematographer up in an almost air-tight soundproof camera-booth where he sweltered during each "take" while the Director of Photography took his ease outside, on a more or less air-conditioned stage. But on our Florida location, the tables were turned. While Director Thorpe and I sweltered under the tropical summer sun on the barge, the operative crew inside the air-conditioned camera-bell did their work in cool comfort!

The basic rules of good photography apply almost equally regardless of whether you are making a scene in the open air or under water. We found that we got the most pleasing results by shooting in a $\frac{3}{4}$ -cross front-light. In the same way, we found it necessary to do our underwater work only on clear days, when there was a good sun and plenty of blue sky. In clear water it may be technically quite possible to make an underwater exposure on an overcast day, but the overcast, which diffuses the light

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Aces of the Camera

VIII:

JOSEPH VALENTINE, A.S.C.

By WALTER BLANCHARD

AT thirty-eight, Joseph Valentine, A.S.C., is one of the industry's youngest top-flight directors of photography. Yet he can look back upon a career of twenty-three years spent behind the cameras—nineteen of them as a full-fledged director of photography!

It began this way. Back in 1918 an ambitious Italian-American youngster, fresh from the photographic classes of a New York high school, decided he was going to make photography, and particularly motion picture photography, his

life work. So over to the old Paragon studio at Fort Lee, New Jersey, he went, cheerfully announcing that he was applying for a job as assistant cameraman. The breezy self-confidence which is still one of Joe's major assets did its work. He got the job—and with it began his climb to the cinematic heights.

Now that the industry has grown to "big business" stature, and cinematography has become a highly complicated art-science, an assistant with a mere four or five years of studio experience

is considered a pretty raw, inexperienced specimen. But things were different twenty-odd years ago; a clever, ambitious fellow could master all that was known about cinematography in a good deal less than five years.

Joe did. Four years—almost to the day—after he first saw the inside of a studio, he stepped out on another set, this time at the Fox east-coast studio, a full-fledged first cameraman, assigned to direct the photography of his first feature picture! For purposes of record, it was "Her Husband's Wives," starring Shirley Mason. And it must have been photographically all right, for Joe remained a first cameraman.

But if you think that, having finally "made the grade" and advanced to first cameraman's stature, Joe Valentine found his career stretching smoothly ahead, you're wrong. Take it from Joe! "That," he says, "was where the real sweat and toil and tears and heartbreaks began. And it was where I really began to learn what cinematography really means, too.

"Out of nineteen years as a first cameraman I spent eleven making 'B' productions and fighting the jinx of 'typing'.

"Beginning with a woman star—Shirley Mason—and making her pictures for several years, I suddenly found myself 'typed.' They'd say, 'Oh, Joe Valentine—I know him; he's all right photographing women, but he's lost on exteriors.' So I made myself learn how to do top-quality work on exteriors. I did 'westerns'; I did 'quickie' action pictures; I did travelogs; I traveled half-way round the world to shoot atmospheric shots and, later, process backgrounds.

"And I did it too well. They'd say, 'Oh, Joe Valentine—I know him; he's great on exteriors, but he can't photograph people!' So I had it all to do over again—convincing the executives who determine what a cinematographer can and can't do that I was just as good at making glamour-closeups of women as I was at pictorializing scenery.

"Frankly, I don't see any rhyme or reason for 'typing' cinematographers. If a man is a good cinematographer, he should be able to photograph anything—and do it equally well. We admit that if a man can do exteriors, and falls down on interiors, he isn't a complete master of his work. In the same way, if a man is an interior glamour-specialist, and can't handle exteriors, I feel he can't be called a real cinematographer.

"But as a matter of fact, I don't think there are many men among today's directors of photography who can't handle everything that comes along. Maybe they don't get a chance to show their versatility, but there's no need of typing them. If you come down to cases, I could mention quite a few of the men who right now are regarded as the last word in glamourizing feminine stars—who served their photographic apprenticeship filming westerns and comedies. And there are just as many men who are

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A.S.C. on Parade

Apologies to Peverell Marley, A.S.C., for the incorrect credits printed at the head of last month's review of "Moon Over Miami." Seems our printer dropped a line of type at the wrong moment, and when he put it together again he thought Ted Tetzlaff, A.S.C., instead of Pev, had directed the photography of the 20th-Fox Technicoloropus. We're sorry all around. And thanks to Dan Fapp, A.S.C., for bringing it to our attention!

Actor-folk out Universal way are patting Stanley Cortez, A.S.C., on the back on account of his latest invention. His gadget consists of an adjustable stand-lamp carrying a small colored globe. He places it just out of camera-range to indicate where the player is supposed to look in his offstage glances. By using lights of different colors, several such objects can be indicated, and players cued accordingly.

Bob Pittack, A.S.C., on one of Hal Roach's new streamlined short-length features.

Seen after any A.S.C. Broad Meeting—Past-Prexy John Arnold and current Prexy Fred Jackman comparing notes about Johnny's ritzy new Packard Clipper and Fred's racy Buick. Looks as though Jackman's got the edge, though—he and Mrs. Jackman have sneaked away for a motoring vacation in Oregon, while MGM's booming production-schedule keeps John tied to his Culver City desk—and his Packard's mileage low!

Ben Reynolds, A.S.C., strolling across the Universal lot, reminiscing about experiences in Death Valley photographing Erich von Stroheim's 1924 thriller, "Greed," recently revived at the Academy's showing of famous films. And they do say Ben's 1924 camerawork still compares favorably with what's current now!

Clyde De Vinna, A.S.C., and his troupe on MGM's "Tarzan" set all sporting location colds.

"Little Phil" Tannura, A.S.C., says he got a vacation between finishing Columbia's Fred Astaire picture, "You'll Never Get Rich," and starting his next opus, the latest "Lone Wolf" whodunit. Seems he snuck off one morning and caught the early show of Ernie Haller's "Manpower."

Max Fabian, A.S.C., at the MGM commissary's Camera Table taking an awful ribbing when Sid Wagner, A.S.C., and Lester White, A.S.C., discover a

Filipino bus-boy who has a brother-in-law named Fabiano.

Bill Steiner, A.S.C., a long way from his usual haunts in New York, Technicoloring a FitzPatrick travel-reel in Glacier Park.

George Meehan, A.S.C., currently busy lensing "Royal Mounted Patrol" for Columbia, is such a fiend for preserving the illusion of reality in pictures he won't even tell his wife what is or isn't a process-shot!

Charles Lang, A.S.C., after locationing all over New Mexico, Arizona, California, and points adjacent locationing for Wanger's "Sundown," sporting a vivid tan.

Charles Rosher, A.S.C., can sleep if he wants on Sundays—for directing the photography of "One Foot In Heaven," Warner's filmization of a middle-western clergyman's life, he's in church six days a week!

Tony Gaudio, A.S.C., and the Missus spotted coming out of Jimmie Howe's "Ching How" restaurant, appropriately "The Man Who Came To Dinner"—but better-tempered, so we'd say, than the title character in his current film of that name.

John Dored, A.S.C., in Buenos Aires organizing Latin-American newsreel coverage for Paramount News.

Wish we had the same sort of luck with weather that Ray Fernstrom, A.S.C., enjoys. That wild Swede can travel half-way around the world for a single scene, to spots famed for unphotographic weather—and have the sun pop out the second he gets set up, vanishing again as soon as his scene's in the box.

Seen at the Paramount commissary's camera table—Victor Milner, A.S.C., and John Mescall, A.S.C., discussing something-or-other that must be serious, judged by their intent expressions.

Harry Hallenberger, A.S.C., teamed with Ray Rennahan, A.S.C., Technicolor's smiling maestro, laughing at Victor Moore's comedy while lensing "Louisiana Purchase." On the same set, Harry Perry, A.S.C., a visitor with a deep tan picked up along with a lot of Technicolor scenes down in the Bahamas. And Al Gilks, A.S.C., gets a bit of the California variety taking out a Technicolor 2nd unit for the same picture.

Freund, Greene, Poll Toppers

Karl Freund, A.S.C., and W. Howard "Duke" Greene, A.S.C., led the field in the results of the Hollywood Reporter's Critics' Preview Poll for June, garnering top honors for their joint achievement Technicoloring MGM's "Blossoms In The Dust." Second place went to another Technicolor job, "Moon Over Miami," photographed by Peverell Marley, A.S.C., Leon Shamroy, A.S.C., and Allen M. Davey, A.S.C., while a third Technicolor production figured in a three-way tie for third place. "Shepherd of the Hills," Technicolored by Charles B. Lang, Jr., A.S.C., and W. Howard Greene, A.S.C., "Out of the Fog," photographed by James Wong Howe, A.S.C., and "Man Hunt," photographed by Arthur Miller, A.S.C., were the three films involved in the third-place photofinish.

Don't mention fish—especially big ones—to Verne Walker, A.S.C., for a while. Seems RKO's trick-dept. headman had a 300-pounder hooked the other day—and it got away!

Memo: ask Jack Greenhalgh, A.S.C., if that new destroyer just launched in Brazil and christened "Greenhalgh" is named for one of his relatives.

Mack Stengler, A.S.C., busy at Monogram filming "Let's Go Collegiate."

Russell Metty, A.S.C., lensing "Week-end for Three" at RKO, while Robert DeGrasse, A.S.C., dittoes "The Unexpected Uncle."

You should have seen the expression on the face of Karl Struss, A.S.C., the other day as Susan Hayward walked past in the commissary—! And after all the pictures you did with Mae West, too, Karl!

Jerry Ash, A.S.C., is reported much better after his recent very serious siege of bronchial pneumonia, but some fifty pounds lighter.

Russell Harlan, A.S.C., when he finished his most recent "Hopalong Cassidy" Bill Boyd starrer for Harry Sherman, celebrated something of an anniversary. Seems it was the 41st of the series he'd lensed—all with the same star and producer. He's creeping up on the all-time record set by Dan Clark, A.S.C., who did 86 in a row with Tom Mix.

Alvin Wyckoff, A.S.C., and Charles Schoenbaum, A.S.C., discussing earlier days and personalities when they were silent-filming together at the old Lasky Studio with Cecil De Mille, Wallie Reid, and others.

THROUGH the EDITOR'S FINDER

A FEW nights ago we attended the preview of a very important major-studio feature. It was photographed by one of the foremost directors of photography in the industry—an Academy Award winner who for many years has invariably placed high on every list of the industry's "ten best" cinematographers.

The next night, at the preview of another of the same studio's films, we saw an inconsequential short-subject photographed by the same man.

It made us think.

Here was one of the industry's greatest camera-artists—a man who is annually entrusted with the responsibility of bringing to the screen feature pictures representing from \$8,000,000 to \$10,000,000 of his employers' money, to say nothing of the far greater value of the screen appearance of the stars who can be made or broken by his camera-treatment. And because he happened to be on the payroll and without a feature assignment for a few days, he was put on a routine little two-reel short that any cinematographer in the industry could have handled equally well.

From where we sit, it just doesn't add up. No studio would put a Raoul Walsh, a Henry Koster, a Sam Wood or Rouben Mamoulian to directing a short just because he happened to be under contract and between pictures. "It wouldn't be economy," the executives would tell you. "Not even the best of those top-bracket directors could bring enough to a short to offset the big slice his salary would take out of the short's slim budget: the short doesn't offer him the opportunity, and besides, after his career in directing so many "A" features, his heart just isn't in it. Without intending to, he'd 'walk through' the assignment. Far better get a less prominent man on his way up, or an older man on the way down to either of whom the assignment would mean opportunity rather than drudgery. For a fraction of the salary, they'd do a vastly better job."

Every word of that holds good for your top-flight director of photography, too. His salary may not be so big, but even so, it will take more out of the short's budget than he can possibly be worth to the production. And with his eyes for so many years focused on top-flight "A" features and Academy Awards, his assignment to the short will seem a demotion to uninspiring drudgery. A younger man, on his way up, or perhaps one of the relatively few older men who for one reason or another, though capable, have been finding jobs scarce, will do better work on that short, and at less cost. To them, it represents opportunity!

The directors of photography in almost every studio in the industry realize this. Scarcely a week passes but in some studio you'll encounter an "A-picture"

cinematographer who'll tell you how he begged his employer not to assign him to some short, or "B" feature, or testing job for another man's production, even if it meant going off salary while some less fortunate member of the profession made the picture.

The directors of photography in one studio—MGM—are right now trying to do something constructive about this problem. They are in the middle of discussions with the studio executives, asking that the men customarily assigned to "A-picture" tasks be relieved of the routine between-picture jobs of filming shorts, tests, backgrounds, and program pictures. They are willing, even, to agree to go voluntarily off salary during those periods, while the less fortunate members of the craft have a chance at both the work, the salaries, and the opportunities to win themselves better berths in the industry.

This is a move that should be supported—and imitated—by cinematographers throughout the industry, for it is a worthwhile step forward for the entire profession. It is only incidental that it would give the "A-picture" men the between-pictures rest and relaxation they so sorely need to enable them to carry on under the great nervous loads they carry. It is incidental that it would do this at a financial sacrifice to these men, or at a saving to the producers.

But it is of the greatest importance that it would give much-needed employment and opportunity to two—perhaps three—groups of men who need both.

It would lend a helping hand to those older men who have grown old behind the industry's cameras. They may not be the front-rank artist-technicians they were a few years back, when they were making the industry's greatest films, and making history with them, but they can still do well enough on shorts, tests, backgrounds, and even program pictures. They deserve that chance.

Every studio in the industry carries on its payroll as stock or bit players from a half-dozen to a score of the actors and directors whose work and names helped build the industry, but who now need, not a pension, but a chance to work honestly to earn a modest existence. *There are cinematographers, too, who have done just as much for the industry—and who today need the industry's help, not as charity, but as a chance to do such work as they can to provide honestly and modestly for themselves and their families now that their great days are through.*

It would lend a hand to another deserving group—the younger men who, while perhaps directors of photography on "quickie" features and shorts, have yet to have the chance to prove themselves on major-studio production.

It might in time even be developed into a plan, too, which could give some

of the young men of the industry—today's ripe-for-promotion operative cameramen—a chance to try their wings without entailing either the risk for the studio or the crushing responsibility for the man, of starting immediately on a major feature assignment.

From every aspect—isn't it worth a good try-out throughout the industry?

TWENTY-FIVE years ago, in New York City, a handful of earnest men got together, inspired by the idea that there ought to be some sort of organizational meeting-place in which all those interested in the technical phases of the cinema and its allied crafts could work together toward the stabilization and solution of the many and varied problems of motion picture engineering.

Today the organization they founded, the Society of Motion Picture Engineers, celebrates its silver anniversary. The Society these men founded in July, 1916, is today one of the oldest and most respected in the industry. In those twenty-five years, the S.M.P.E. has grown into a world-wide organization including in its membership some thirteen hundred of the world's greatest experts in cinematography, film-processing, sound-recording, photochemistry, illuminating, electrical and acoustic engineering, optics, equipment-design, projection, and all the innumerable other technical and scientific crafts allied to motion pictures. It has determined and stabilized dimensional and operating standards so universally accepted that 35mm., 16mm. or 8mm. films made in any part of the world may be run on equipment made or used in any other corner of the globe. It has in varying measure been responsible for far-reaching technical advances in every phase of motion pictures. It has—almost alone among film groups—hewed strictly to its appointed line of engineering, never deviating to pay tribute to passing fads or petty politics. It has been, and is, one of the really great constructive forces of the industry.

Therefore as the S.M.P.E. celebrates its twenty-fifth birthday, the A.S.C. and THE AMERICAN CINEMATOGRAPHER join whole-heartedly in congratulations and good wishes to the Society and its President, Emery Huse, A.S.C.

A few months ago one of our reviews sharply criticized the poor quality of a print seen in preview. Recently we saw another of the same studio's films previewed, and noticed a remarkable improvement in print-quality. We don't claim credit for this improvement. But it's the sort of thing we're aiming at whenever we write critically of anything. We may speak frankly and unflatteringly, but always, we hope, constructively and for the industry's benefit.

PHOTOGRAPHY OF THE MONTH

HERE COMES MR. JORDAN

Columbia Production.

Director of Photography: Joseph Walker, A.S.C.

"Here Comes Mr. Jordan" (originally and more appropriately "Heaven Can Wait") is one of the finest jobs of photography Director of Photography Joseph Walker, A.S.C., has turned out in some time. Played throughout for comedy, it doesn't offer the obvious opportunities for spectacularly dramatic camerawork and lighting that some of Walker's other, more heavily dramatic productions have, but he makes it distinguished visually by giving it sensitively-keyed "mood" photography where the ordinary impulse would be to shoot it in a fairly high-keyed comedy mood and let things go at that. The picture is definitely the better for Walker's camera-treatment.

Even though it is one of the better, and more unusual comedies of the season, there is ample variation in dramatic mood and tempo to give Walker's lighting considerable play. And we've seldom seen photography that followed the mood of the action more sympathetically. A particularly good example of this—and one which can be recommended to students of cine-technique—is the sequence leading up to the second murder of the stockbroker whose body Robert Montgomery temporarily occupies. Up to this point, the treatment has been fairly high-keyed; but as the sequence progresses, the visual key is subtly lowered, with increasingly ominous shadow-effects taking place in the compositions, until—by strictly visual means—the audience is mentally prepared for the murder which follows.

The special-effects work of the production—which, being uncredited, may be presumed to be Walker's achievement—is outstanding. Both technically and pictorially the scenes in the celestial way-station where "Mr. Jordan" waits (with a transport plane!) to pick up the passengers he is to ferry to Heaven, are outstanding. The concept is one which could all too easily be thrown out of key by inept camerawork; but Walker's realization brings it to the screen deftly, with the precisely right visual note of combined reality, unreality and slyly incongruous humor.

His execution of the various appearances and disappearances of Montgomery, as the disembodied prizefighter, and his mentors, "Mr. Jordan" and "Messenger 7013" furnish another technical highlight of the film. One could wish, however, that there might perhaps have been a few more of these, and that also in at least some of the scenes in which these characters were shown and established as being invisible and inaudible to the other players, they could have been shown as more conventionally double-exposed ghosts. Similarly, one

wonders if it would not have been more dramatically convincing if Montgomery, as he takes over temporarily the bodies of the deceased broker and prizefighter, could not have been helped in his characterizations by changes in make-up which would make things more believable to the audience.

Another serious flaw in the picture is the fact that one whole sequence—that in the broker's office—a set employed in another very recent Columbia release is employed, scarcely without change. It seems ludicrous to see Montgomery, in the broker's body, using an office which belonged to Franchot Tone in "She Knew All The Answers." One almost expects Tone, or at least Joan Bennett, to walk in and order the interloper out!

A highly enthusiastic word must be said about the laboratory work on "Here Comes Mr. Jordan." In the past, we've seen some very indifferent prints from this studio—and said so. But it is a pleasure to report that when the preview print of "Here Comes Mr. Jordan" was made, Laboratory Supervisor George Seid and his staff were very much on their toes, and turned out a print which is not only the best Columbia print we've seen in many a year, but one which would be a credit to any laboratory. We hope they'll keep up the good work.

MY LIFE WITH CAROLINE

RKO-Radio Production.

Director of Photography: Victor Milner, A.S.C.

Special Effects by: Vernon L. Walker, A.S.C.

This is another example of Milner in his best mood—the deft, crisp polished comedy of the Lubitsch-esque school at which he so greatly excels. And it is one of Milner's best photographic achievements in every way. His sparkling high-key photography does much to set and maintain the frothy atmosphere of the picture.

A particularly noteworthy achievement is what Milner's camera does to the star, Ronald Colman. Ever since "A Tale of Two Cities" we have seen Colman growing progressively older and wearier on the screen. And inevitably the general audience-reaction has been "what a delightful player he was" rather than the present-tense mention his performances have really deserved. But in "My Life With Caroline" Milner's camera-treatment of Colman gives the public back the Ronald Colman of a dozen years ago. Seldom has the value of understanding camerawork to a star been more emphatically emphasized.

Vernon Walker's special-effects work is excellent, as usual. There is quite a variety of it in the production, too. Most outstanding, perhaps, is the yachting sequence, which includes some real-

ly noteworthy process-background work in which foreground and background are uncommonly well coordinated.

On the other side of the ledger must be mentioned the settings designed by Nicholai Remisoff. Viewed as examples of bizarre architecture they might, perhaps, be considered worthy of mild praise. But as settings for a motion picture they are atrocious. Instead of providing an atmospherically fitting background to the action, these sets—with perhaps the single exception of the "Sun Valley" set used briefly in the opening and closing sequences—continually fight with story, dialog and action for the center of the stage.

It is a literal fact that in several of the most dramatically important sequences of the picture the exaggerated ornateness of the sets actually conceals the players from the audience. Perhaps the worst offender in this respect is the set supposed to represent the entry-way and main staircase of Colman's luxurious Florida home. This bizarre creation centers around a lavish staircase which would be questionable as a background even for a Busby Berkeley musical extravaganza number—a fearful and wonderful creation of modernistic chrome, lucite and—so help us!—fur. And yet quite a bit of important action takes place on and near this stairway.

Inevitably, in much of that action the audience's eye has literally to fight to get past that over-aggressive setting to the people acting on it. Sometimes it's a losing battle. In one important scene in the latter part of the film, when Anna Lee, after starting out to leave with another man, returns home and hurries up the stair, this important action is shown in a long-shot—and Remisoff's incredible creation literally hides the fact that anyone is moving up the stair until a line of dialog from another player—"There she goes now"—tells you what you are supposed to be seeing! If this is a sample of Remisoff's best work, we fail to see what could commend him to so astute a producer-director as Lewis Milestone, save, perhaps, his congenially Muscovite name. At any rate, for his next production Milestone would be well-advised to satisfy himself with a simple art director rather than a "production designer" of this type. He'd get better sets—backgrounds which would give his direction and the talents of his cast a better chance.

SERGEANT YORK

Jesse L. Lasky Production: Warner Bros.' Release.

Director of Photography: Sol Polito, A.S.C.

Battle Sequences: Arthur Edeson, A.S.C.

"Sergeant York" is in every sense of the word, a great picture—perhaps the most impressive of the season. Pro-

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Filming A Battle — — in Miniature

By TED VOIGTLANDER

A VISIT from my cousin, a corporal in the United States Marine Corps, inspired me to produce a short movie using a military theme. After completing the little epic, which we titled "Recruiting," a thought occurred to me that a preface to the story depicting battle scenes might set the stage for the show. The Fourth of July being only three days away would make explosives easy to acquire. I couldn't visualize blowing Culver City up but might confine the action to a small area such as my back yard. Thus my first miniature attempt was born.

The arena of action was set up on a table three feet by four feet in dimensions. The scene was to be a miniature "Flanders," giving one a panoramic view of a battle-scarred area, shell-splintered trees, bomb craters, with rolling tanks and field artillery being brought into action. Enemy fighter planes were to be dived into the scene, one crashing, catching fire and blowing up, a bombardment of a hundred "shells" bringing the picture to a close. With this plan in mind I set to work.

First of all I sketched the scene out on paper. The prime requisite of the panorama was the perspective to be obtained—the foreground to focus down to small-scale background objects. This was to give the illusion of depth. It is what an artist would call "forced perspective."

With sketches completed I started building. Fifteen shovels-full of adobe soil were leveled out on the table. Adobe soil, after being dampened, can be molded easily into any topographic scheme. With the topography completed,

the next problem was the adorning the set with trees. I used dried tips from our newly-trimmed hedge. These were shorn of adhering leaves and branches to give the effect of bleakness. Only small, broken projecting branch-stubs were left. Large tips were put in the foreground, smaller tips placed in back of these, and the smallest ones placed in the rear. One-and-one-half-inch strips of wire grating were woven in and out of the scene to make a barbed-wire entanglement. Sky-blue paper was placed in the rear to give me a sky. As the picture was to be done in 16mm. Kodachrome I had to watch my color-values. Toy war tanks purchased at a dime-store were attached to brown threads strung across the field to the opposite end. Scale model airplanes that a friend of mine builds as a hobby were attached to blue-colored threads and were to be worked from above the set, swinging them across the field of action.

Setting up my Model E Eastman four feet center away from the table, I set the angle to shoot slightly down on the field, catching one half set and one half sky in the picture. Parallax problems entered here, but with my present camera I could only approximate the compensation and played the finder slightly upwards at a forty-five degree angle. I decided to shoot at three times normal camera speed (48 frames per second) which would give me the effect of near normal size when projected.

With the scene set for the battle I called for help. In less than ten minutes I had four interested helpers on the scene. One was detailed to draw the

tanks across the field, one to swing the airplanes through the picture, and two to light fuses.

The bombs (giant firecrackers) were placed under the soil in each plot we wanted to blow up. The direct sunlight gave me an f:8 reading for normal camera speed. I had to compensate for a speed of three times normal, thereby opening my stop to f:4.5. With the camera tied down (camera was never moved once we started) I gave the sign for the start. All action was stopped at the end of each explosion. Then another fuse was lighted and action started again. When the airplane crashed into the scene, we stopped action, covered the plane with gunpowder and inflammable cleaning-solvent, put a "cracker" underneath the plane, and touched a match to it. I started the camera going the instant the plane ignited. On the screen this gave us an unbelievable effect of an actual air crash.

We followed this with a bombardment of "lady-finger" firecrackers, setting off two strings which had previously been buried underneath the soil of the battlefield. This closed the picture with a tremendous "barrage." All told, we exposed 100 feet of Kodachrome film.

After viewing this little effort on the screen, I thought that the addition of sound-effects might make it quite an interesting little show. So I called in the assistance of my friend Matt Kluznik, who possesses a dual-turntable recording system. We knew that absolute synchronization wasn't possible with the equipment we had, but we tried it, any-



Above, frame enlargements of successive phases of two of the miniature airplane crashes in Voigtlander's film, showing fire and explosions. On opposite page, two shellbursts from the "bombardment."

way. The results have been pretty good—and the sound adds about 100 per cent to the effectiveness of the picture. In addition, improvising battle sound-effects and recording them was fun, though strenuous.

The first step was to provide a definite marked starting-point on the film. With black drafting-ink I "blacked out" a whole frame on the white leader-strip, leaving in white letters the word **START**. Between this starting-frame and the start of the picture, allow enough footage so both projector and sound-turntable can come up to speed before the actual beginning of the picture and recording; this of course will vary according to the equipment used. In my own case it was 21 frames.

The foundation of our sound-effect record was a general mutter of battle-

noise in the background. This we got from an old radio sound-effects record Matt had; believe it or not, it wasn't anything like a real battle—it was a recording of city traffic, luckily without auto-horns or street-car bells. It served our purpose perfectly. We kept this background-noise going all through the picture.

For heavy shell-bursts, we bounced a big rubber ball on the table behind the mike, trying to synchronize reasonably well with the pictured explosions of our firecracker "shells," and keeping an uneven beat rather than a regular bump-bump-bump. For closer shell-bursts we would slam a book closed,

or sometimes drop a book behind the mike.

Machine-gun fire was imitated by dragging a pencil across a washboard. The airplane noises were made by vibrating a vase between my fingers, moving nearer to or farther from the mike according as we wanted the plane approaching or receding. For the plane-crash, we slammed a book, and at the same time added a special sound-effect made by dropping a sack with about 200 pennies (from a penny bank) in it on the floor. When the sack broke and the pennies scattered the mike picked up an excellent crash-noise. The sound of the fire was made by crinkling a sheet of ordinary cellophane wrapping-tissue.

It is very important to establish a

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Ray Fosholdt Built A Movie-Maker's "Dream Home"

By WILLIAM STULL, A.S.C.

EVERY movie-maker cherishes at least a mental picture of the "dream home" he hopes some day to build—one which will be not only a dwelling-place, but a home studio in which he can make, edit, and screen his pictures under ideal conditions. Most of us have to be content merely to dream of this ideal movie-making home—and talk endlessly about it to any cinefilming friends who will listen. But Ray and LaNelle Fosholdt of Long Beach, California, don't have to dream about their "dream home." They live in it. What's more, it was in the strictest sense built around their movie-making hobby!

"And we mean that literally," they'll tell you. "We had had our full share of living in apartments and rented houses, with the projector and screen relegated to stowage-space in closets, and using a bathroom or an improvised garage-darkroom for Ray's cinefilm processing and still work. So when the family bank-account finally told us we could at last build a home of our own, we agreed that it would center about our movie-making, just as most of the rest of our daily life does.

"We began by drawing up plans for

what we considered an ideal, permanent projection-room. Then we planned a darkroom laboratory for Ray's home processing. After that, we just let the rest of the house grow up naturally around these two essential features."

If you should call on the Fosholdts, you will notice, as you wait for an answer to your ring at the doorbell, an inviting, modernly-appointed living-room just beside the front entrance. And thereby you can tell how you rate with this cinefilming family. If they entertain you in this parlor, you can be pretty sure you rate as "company." But if they whisk you past the living-room's entrance, and take you upstairs to the projection-room, you really "rate" as a Fosholdt friend! Characteristically, they do more living and entertaining in that projection-room than in any other part of the house.

And no wonder, for this projection-room is a friendly place, where one can relax and enjoy conversation or films without formality. A big overstuffed divan and plenty of well-upholstered chairs provide seating of the sort that tempts the visitor to overstay. A magazine-stand filled with well-thumbed copies

of THE AMERICAN CINEMATOGRAPHER and other movie-making periodicals is conveniently at hand by Ray's favorite chair. Along one wall a framed row of *Esquire's* "Petty girls" furnishes a decorative note, while on the other is a frequently-changed series of candid shots of the Long Beach Cinema Club and its members in action.

At the far end of the room, neatly framed by drapes, is hung a four-foot beaded screen. Behind the divan are two inconspicuous ports through which a pair of projectors throw their beams to the screen.

Theatre-wise, the projectors themselves are housed in a neat little projection-booth, projecting through glazed ports so that virtually no noise escapes into the projection-room to mar the presentation of a film. Fosholdt himself works in 16mm., so the mainstay of his projection set-up is his Victor 16mm. projector, while a Bell & Howell 8mm. projector is on hand for showing any narrow-gauge pictures that come his way. Sometimes, as on a recent visit of this writer's to the Fosholdt home-theatre, President Mildred Caldwell of the Long Beach Club adds her own Filmo 8 to the projection line-up, and multi-reel films can be given continuous projection as smoothly as in any professional theatre, changing over from one projector to the next without any perceptible break on the screen.

Sound—from discs—is an integral part of the Fosholdt showings. A disc recorder and playback turntable is placed on the projector-shelf between the two projectors, and this, with an earlier turntable installation, connected through the same amplifier permits continuous twin-



turntable "sounding." In addition, the attachment to recorder and projector of Synchro-sound synchronizing units makes it possible for Fosholdt to record and play synchronized musical scores, narration, and even lip-synchronized "talkie" dialog films.

Unlike most home-projection installations, this sound set-up is no after-thought. There is no disorderly tangle of wiring running along the floor to convey the sound from projection-booth to the speakers "down front." Conduits built within the walls take care of this; all that is necessary is to plug the desired amplifier, etc., into the circuit.

As a matter of fact, Fosholdt has somewhat expanded his sound installation since the projection-room was built. His original layout called for a built-in speaker, which can be seen in our photograph masquerading as a light-fixture directly above the screen in the projection-room's ceiling. This fixture began its career as an overhead lighting-fixture in a friend's yacht. But Fosholdt obtained it, removed the glass and substituted suitable acoustically porous fabric, and used it to conceal a built-in speaker.

Lately, as the quality of recorded sound has improved, Fosholdt has used this original speaker as the high-frequency reproducer of his modernized installation, adding the auxiliary speaker seen standing on the floor beside the screen to handle the low-frequency components. The result is sound-quality very rarely surpassed by the best of professional installations, and far superior to the average home sound outfit.

Naturally rewinds, editing and splicing equipment are nominally stored in the projection-booth. But just as naturally, when a really important editing job is in hand Fosholdt moves out to the

Above, left, Ray Fosholdt transfers film from developing-drum to drying-rack; right, Ray and LaNelle Fosholdt and Mrs. Caldwell use two mikes to record dialog for a disc-synchronized talkie; below, Mrs. Caldwell and Ray Fosholdt train cameras and lights on LaNelle Fosholdt. On opposite page are two views of the projection-room and projection-booth. Note speaker in ceiling above screen.



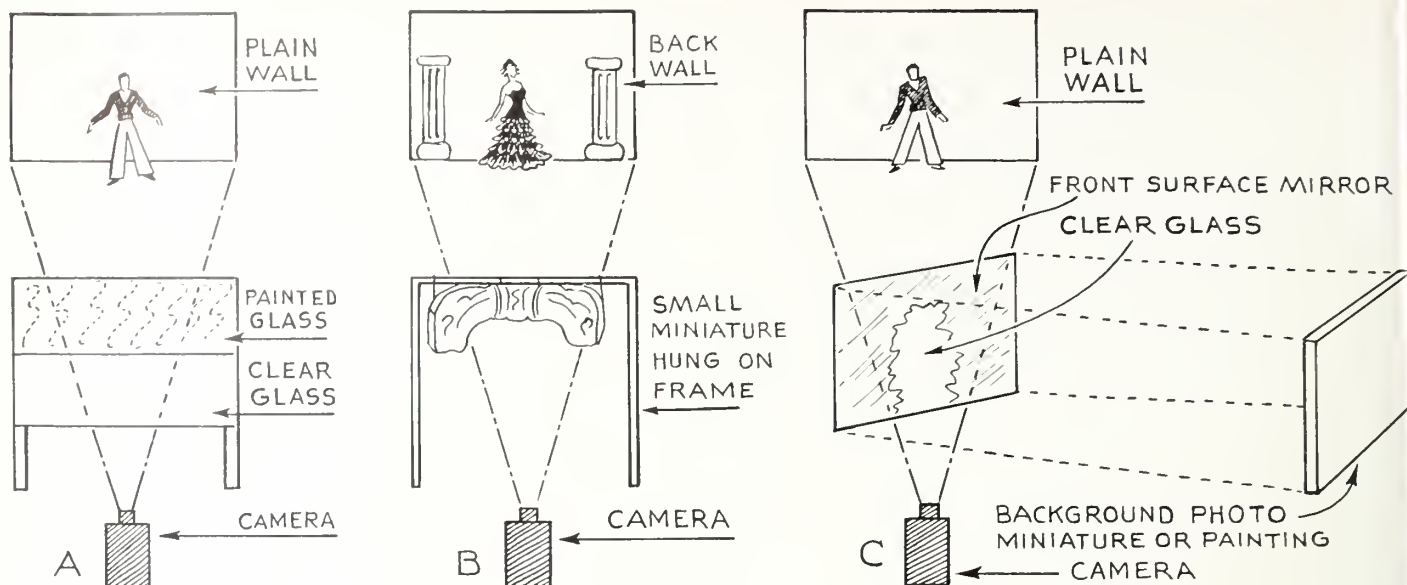
roomier and more comfortable surroundings of the projection-room where he and his wife, usually accompanied by Club-President Caldwell, who is all but a member of this movie-making family, can work—and argue—in greater comfort.

Shelves and drawers inside the projection-booth simplify the problems of storing a movie-maker's innumerable films and accessories. A long shelf directly above the projectors, for example, provides a neatly-indexed place for Ray's films, each 400-foot reel and can sliding into its own compartment, with the title of the film lettered beneath. Drawers beneath the projector-shelf provide storage-room for the odds and

ends of 100-foot rolls which Ray, like any other movie-maker, accumulates, and conveniently-placed shelves afford room for his auxiliary turntable, records, and similar accessories.

Down on the ground floor of the house, just a few steps from the kitchen, is found the other essential part of this movie-maker's home — the darkroom where Ray Fosholdt does the finest home processing of 16mm. reversal film this writer has ever seen. Like any well-designed laboratory, it is really two rooms. As you go in, you find yourself in the light end of the lab—a combined chemical mixing-room and a place for such operations as title-shooting and

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Camera Tricks That Build "Production Value"

By MACK STENGLER, A.S.C.

EVERY director of photography gets plenty of letters from 16mm. and 8mm. cinefilmmers asking, in substance, "How can I, with my home-movie camera, get such-and-such an effect I saw in your last picture?" When these questions are about such things as filtering, lighting, composition, diffusion, and so on, we're glad to come through with the answer; most of us use sixteens or eights ourselves, and are glad to pass along anything that can honestly be applied to the betterment of substandard filming.

But every now and then these letters ask us about effects that can't very well be obtained with substandard equipment. Usually they're effects that have been secured by either optical printing or the projected-background process. And both of these are for all practical purposes out of reach for the average amateur. True, you *can* build an optical printer for 16mm. or 8mm. use—but building it is a real job of precision cinemechanics if you want a printer that will do the things you desire and be accurate enough so it won't give your trick away. In the same way, you *can* make back-projection shots with substandard cameras; but doing it on anything much bigger than title backgrounds calls for interlocked synchronous electric-motor drives for camera and projector—plus a lot more projector il-

lumination than is found in most substandard projectors today.

There are, however, some camera-tricks which can be adapted to 16mm. and 8mm. use, which will help add "production value" to your scenario films and maybe eliminate some of your set-building troubles. I won't insult you by saying they're simple. They aren't. They call for real precision in camera-operation, and some construction that isn't exactly easy. But the point is—they can be done with some of the better 16mm. and 8mm. equipment now available, if you're willing to work patiently and painstakingly. They are processes which have been more or less extensively used in 35mm. professional work in the past, but which have to a great extent been crowded out by the newer and handier methods of optical printing and back-projection.

Let's have it understood from the start that they all require a camera which can let you focus the full-frame image on a ground-glass focusing screen. The 16mm. Cine-Special is ideal for it; the various magazine 16mm. and 8mm. cameras, with the ground-glass focusing attachments with which they can be fitted, can also be used, as can, I believe, the Filmo turret 8 with its full-frame focusing arrangement. It is just possible, too, that some other cameras, not fitted with ground-glass

through-the-lens focusing, but with really accurate finders which, by means of a focusing alignment gauge, can be swung into the exact position occupied by the lens in filming, might be usable, too. That's just a possibility; I wouldn't guarantee it.

The first and probably the oldest and most familiar of these tricks is the "glass shot." In it, a good-sized pane of glass is placed in front of the lens. On it is painted whatever you may want to add to your scene—say a ceiling in an interior shot, or a background of sky, clouds, mountains, city skyline, or the like, in an exterior. The actual scene and live action are filmed through unpainted areas on the glass.

The important point is this: the glass painting must be matched, *looking through the lens*, to whatever actual set or scene is to be photographed, so that the two blend smoothly into one. And of course the live action of the scene must be so directed that it keeps strictly within the bounds of the unpainted part of the glass. Otherwise, as your actor stepped "out of bounds" and crossed the matte-painting line, part of him would suddenly—and for no apparent reason on the screen—vanish.

Another vitally important thing is that camera and matte-painting shouldn't be moved between the time the painting is made and the time the shot is photographed. If either moves even the smallest fraction of an inch, they're not likely to match up properly when the scene is made. Back in the old days when we used this process in the studios, it was a common sight to see a tripod carefully anchored to the stage floor by tie-down chains, etc., in its proper position behind a glass, with signs all around saying "Do Not Touch!" When the camera was placed on the tripod, it would be perfectly aligned for the shot.

While these glass shots are generally

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BEING an actor in professional movies can be a big asset to anyone whose hobby is amateur still or movie camerawork. Day in and day out you're working with the world's top masters of the camera—men to whom all the little tricks of composition, lighting, filtering and so on have become second nature. If you keep your eyes open, you'll learn more things of real, practical value from the things a studio cinematographer does instinctively than you can from any formal instruction.

Take my own case, for example. My hobby is making stills and 16mm. movies—portraits, pictorial landscapes, scenarized vacation-films and an occasional little back-yard scenario picture. In my daily work at the studio I'm teamed up with director of photography Harry Wild, A.S.C. Harry is one of the younger generation of cinematographers, but he's a real veteran of "western" camerawork. Right now, we're doing our eleventh picture together, and before that he photographed all the "westerns" George O'Brien (himself a former assistant cameraman) made for RKO. Harry has spent a lot of time teaching me how to make better pictures—and watching him work, I've learned many little tricks that are so instinctive to him he never realizes how clever and helpful they are.

For example, all of us know that one of the best ways to make an effective composition in an exterior shot is to shoot it through a natural "frame" of tree-branches. But—as most of us have also learned when making vacation stills and movies—nature doesn't always cooperate. All too often we'll find a perfectly swell shot, but no sign of a tree or shrubbery to complete the foreground composition.

That happens even oftener when a professional troupe goes out on location. But with a resourceful professional like Harry at the camera, it doesn't matter much whether or not nature cooperates. If the "frame" isn't there naturally—he makes one! He always carries with him three or four tree-branches of different sizes and shapes, and when he spots a composition that needs a framing branch at top or side, he simply nails one of his branches to a wooden stand and puts it where he wants it!

This same idea can be used just as well for amateur movies or stills. Your branch doesn't have to be particularly big, either. A simple, wooden stand will hold it well enough, or you can use a clamp on top of your old, second-string tripod. In a pinch, even friend wife can hold it in place long enough to let you get your shot.

Another trick I've learned is using graduated filters. You can get them in several varieties—shading from clear at the bottom to a fairly heavy yellow or red at the top, or from yellow to red, and so on. They're great for use when you have people in the shot, and want to filter your sky without at the same time filtering your foreground and the



MY CAMERAMAN GAVE ME Professional Tips for Better Movies

By TIM HOLT

people's faces. Place the filter a few inches out from the lens for the best results; and then if you have a still-camera like my Speed Graphic, or a movie camera like a Cine-Special, you can study the results on the ground-glass until you've adjusted things for just the right effect. With other cameras, if you have a focusing alignment gauge so you can swing the finder into the lens' photographing position, you can often do the same.

And—these filters are reversible, too. If you've an overly "hot" foreground, you can balance it up nicely using a graduate with its denser portion down instead of up. After a few pictures with Harry, seeing how he used graduated filters and watching the effects on the screen, I've come to use them extensively in my own stills and movies.

You can learn many practical tricks about interior lighting, watching a fellow like Harry Wild work. For example, I've found in my own portraits and 16mm. close-ups I can adapt Harry's basic lighting technique excellently. So I generally use a rather strong, $\frac{3}{4}$ -front cross-light for my key light, a reasonably diffused "filler" light on the other side to lighten my shadows, and a rim

back-lighting to outline the shadow-side of the subject. It makes a very effective lighting—pleasantly different from either the usual flat portrait lighting or a full back-lighting—and it's convenient to work with.

Another thing I've learned from watching Harry work in the studio is to set up a good basic lighting to illuminate the room or set, and do most of the work of lighting the people, and leave only two or three floor units to be moved and adjusted as you change set-ups. Harry finds that's the most efficient way to work in the studio, where he often has to shoot 50 or 60 set-ups a day. For my part, I find it saves me time, trouble and lots of mistakes when I'm shooting pictures at home.

Something else I've learned is that so long as there are accurate exposure-meters available, neither professional or amateur can ever know enough to guess at exposure. Harry is good—no mistake about that!—and he can "read" light and exposure by eye with incredible accuracy. But at every change of set-up, in the studio or out on location, I notice that the last minute before

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Getting Normal Exposures Under Abnormal Conditions

By P. C. SMETHURST

THE grounds on which the system described in last month's article was chiefly attacked when the writer first brought it forward some time ago were that (a) flat scenes were overexposed on the screen, and that (b) in a very contrasty subject the shadows were much too dark. Both of these criticisms are due to a confusion of exposure and contrast. The professional cinematographer arranges contrast by reflectors, subsidiary shadow-lighting, and special filters, and if amateurs wish to obtain the same results they must naturally adopt similar measures.

A flat subject appears light on the screen because the face tones remain the same brightness as when the sun is shining, but the shadows are not so dark. A similar effect is bound to appear when the sky is overcast: the lack of shadows makes the image seem over-light, although a careful examination will show that the lightest tones are still at their correct brightness level. It has often been suggested that this trouble can be cured by underexposure on a flat subject,

but this merely darkens the sky until it looks leaden, and makes the face of any unfortunate person in the camera field look as though it had not been washed for some weeks. Underexposure is never a cure for flat contrast: a special filter often is.

The other complaint—of excessively dark shadows in a contrasty subject—is based on a similar misconception. If the shadows are to show detail (and every film has a limit to the range of tones it will accept) then more exposure must be given, and the face tones will be burnt out at once, but since in films face-tones are more interesting than shadow-detail (unless the latter is shown as a special close-up for a particular purpose) the result is that the shot seems overexposed.

No two films have quite the same contrast, and it is always possible to choose one with an emulsion characteristic that suits one's personal feelings on these points. Whatever the choice, it is one between two evils: a hard film peps up flat scenes, but makes contrasty ones over-dark in the shadows, while a soft

film shows the contrasty scenes well but makes the flat ones seem very dull indeed.

The lack of contrast when using telephoto lenses has usually nothing to do with subject contrast or film contrast, but is due to light scattered all over the image by the long lens barrel. This light may not be very high in intensity, and thus hardly affects the lightest tones of the scene, but the shadows are fogged by the general scattered light all over them, and come out on the screen much lighter than they have any business to do. The only cure for these troubles is a long lens-hood coupled with an effects-box which cuts out all the light going through the lens which does not actually fall in the area of the camera gate, a deep yellow or red filter to keep atmospheric haze down, and some attention to the inside of the lens barrel in the form of masks. The least trace of shine on the inside of the barrel will cause quite a lot of scattered light and reduce contrast materially.

One of the important things about the intrinsic contrast of a film is that it affects the extent to which errors in exposure are permissible in practice. It is a matter of experience, as well as perfectly good theory, that a contrasty film is more affected by a slight change of exposure than a soft one, so that in practice any film giving a high contrast must be exposed as carefully as possible. The most difficult films of all to expose are color-films, and this is partially due to the fact that they effect color-separation by monochrome image-contrast. The flat-

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NANI O HAWAII

(Beautiful Hawaii).

Travel-scenic, 750 feet 8mm. Kodachrome; sound-on-disc synchronized.

Filmed by Mrs. Mildred J. Caldwell.

Ordinarily, four reels is much too long for a scenic or vacation film intended for other than strictly family showings. But Mrs. Caldwell handles this film of a vacation in Hawaii so deftly that one is conscious only of seeing a very fine picture, and quite forgets the passage of time.

Most noteworthy, perhaps, is the way she personalizes her film, interspersing the scenic shots not only with local color, but with humorous shots of herself, apparently at work making the picture and burdened down by an incredible load of camera and accessory equipment. This furnishes a "running gag" that gives an invaluable "lift" to the picture.

Her choice of subject-matter is excellent: she not only shows the conventional sights of a Honolulu visit—the hula-dancers, coconut palms, Waikiki beach, Diamond Head, and the like—but takes her camera off the beaten path to show parts of the island most mainlanders seldom know of, and fewer visit. In addition, she shows fascinating glimpses of the local color—the incredible life and people of this cross-roads of the Pacific.

The continuity-treatment of the film is another noteworthy feature: the picture is divided into well-marked sequences, each being climaxed with a spectacular tropical sunset scene ending in a fade-out, and accompanied in the narration by the comment that so ended another day in Hawaii. With her subject-matter organized this way, she can, when necessary, drop out an entire reel or more when this is advisable to suit her film to time requirements, or to eliminate sequences which may be uninteresting to certain audiences—and she can do this without apparently harming the flow of continuity.

Visually, the film is a delight. Mrs. Caldwell has an uncommonly good eye for composition, and given the inherently pictorial possibilities of Hawaii, she presents scene after scene of such striking pictorial excellence as would wring spontaneous applause from any camera-minded audience.

There are very few technical flaws to be found in the film. There are here and there occasional errors in exposure—usually on the high side—but the majority of these appear to have been made under difficult or abnormal conditions and, because of the interest of the subject-matter, they can usually be excused. Her almost total abstinence from panning is highly commendable, as is her use of a tripod wherever possible. The closing sequence, showing the traveller sailing from Honolulu, might possibly be short-

ened a bit as too much rather anticlimatic footage is spent in building up to the departure. A few additional scenes showing the departing visitors finally casting their leis overboard with the hope that they may be washed ashore, which, according to tradition, is a sign the voyager will return, would also be helpful in this sequence.

The musical accompaniment, largely from recordings of authentic Hawaiian music obtained in the islands, and the narration, home recorded on acetate discs by the filmer and synchronized by the "synchro-sound" method, add a fittingly professional finish to an excellent film.

MR. HITLER NEVER LOSES

Documentary, 50 feet 8mm. black-and-white.

Filmed by Joseph F. Hollywood.

This short film is one of the most unusual little subjects we have ever screened. A satirical view of the German invasion of Poland, it is told through a combination of title-technique, "live-action" shots and unusually effective table-top miniatures.

Photographs and caricatures of the German Fuehrer are used as double-exposed backgrounds for titles bearing quotations from some of his speeches. These are in the early sequences contrasted with live-action shots of close views of actions which contrast strongly with the dictator's quoted words—"I want peace!" close-up of a helmet being polished—"I want no war!" close-up of a rifle being cleaned—"These Poles exhaust my patience!" close-up of bullets being inserted in a bandoleer, etc. There follows a sequence of remarkable miniature-shots suggesting, by means of tent-cent store toys, mechanized troops on the move, a mass-attack by tanks, with guns spitting, and finally an artillery and dive-bomber attack on a city, with houses blown up, the skyline pierced by flames, etc., culminating in a montage of increasingly large sections of a military cemetery, animated maps indicating the dismemberment of Poland, etc.

The entire picture—with the miniatures of course the highlight—is uncommonly well-executed. It also shows a grasp of the fundamentals of cutting, cinematic rhythm, and tempo that is seldom seen in either amateur or professional films. Mr. Hollywood is to be congratulated on both his originality of concept and treatment, and upon the cinematic skill with which he has filmed his ideas.

A TALE OF THE NORTH

Scenario film, 280 feet 8mm. Kodachrome; semi-synchronous musical score.

Filmed by Frank de Virgilio.

This melodrama of Klondike gold-rush days shows the results of a great deal of sincere and painstaking production effort, and a praiseworthy grasp of cinematic fundamentals and technique. Exposure, composition, camera-manipulation and similar technicalities are uniformly excellent. In addition, "A Tale of the North" is the first amateur film we've seen which attempts to make use in some measure of the much-publicized "pan-focus" technique Gregg Toland, A.S.C., introduced professionally in "Citizen Kane"—that is, making use of the extreme depth of field afforded by short-focus cine-lenses to permit playing action which conventionally would require intercutting of two different closer angles in a single long-shot, with one player well-focused in the foreground, and the other equally well-defined in the background. This technique is actually more adaptable in substandard filming than in 35mm., due to the greater depth given by the 25mm., 15mm., 13mm., and 7mm. lenses available for 16mm. and 8mm. cameras. De Virgilio has made praiseworthy use of this, though he has apparently had some slight compositional difficulties due to finder-parallax.

The manner in which the film is divided into well-marked sequences by the expedient of panning up past tree-tops and fading out, followed by a fade-in and downward pan from other tree-tops to begin the next sequence, is commendable. So, too, is his understanding of the importance of keeping the direction of a character's movement in successive scenes continuous across the screen until he has been shown doing something that makes a change of direction logical. His direction and editing of the climaxing fight sequence is exceptionally good, especially as regards the way it coordinates with the musical accompaniment.

Some criticisms are possible, however. First, perhaps is the fact that with the exception of the opening, credit, introductory and end titles, which are excellent double-exposed titles, the subtitles are all rather indifferent examples of typewritten titles, with dark lettering on a light-colored ground. These should by all means be replaced by more professional-looking titles, with white lettering on a dark-colored (say dark green) background. The opening of the film would also be improved by eliminating the short totem-pole montage between the credit-titles and the introductory title; this montage is too similar to the totem-pole shots which soon after open the action.

A few criticisms from the dramatic viewpoint can also be offered. First, it seems a mistake that both hero and villain should wear shirts so closely alike, unless it is intended that this similarity

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AMONG THE MOVIE CLUBS

CALLING CLUB SECRETARIES!

This department of THE AMERICAN CINEMATOGRAPHER is *your* department. We feel that there is a great deal to be gained all around by making these reports of club activities available to other clubs and to independent cine-filmmers all over the country. To that end, we ask all you club secretaries to consider yourselves special reporters for THE AMERICAN CINEMATOGRAPHER with the assignment to "cover" the activities and meetings of your club.

The Editor.



Minneapolis Elects

The Minneapolis Cine Club, in its final meeting before the summer vacation interlude, elected a new slate of officers to pilot the Club's activities when they are resumed in September. Chosen to guide the Club during the 1941-1942 season were Ralph Sprungman, President; Dr. Harvey Nelson, 1st Vice-President; Arthur Anderson, 2nd Vice-President; Stanley Berglund, Secretary; and Henry Lewis, Treasurer. Retiring President Carroll Davidson and Dr. Maurice Lowe were elected to serve two-year terms on the Club's Executive Board. Answering the question asked in many Clubs—how to provide employment for deserving vice-presidents—the Minneapolis Cine Club handed their new "second officers" a pair of man-sized jobs, assigning one V-P to handle the Club's Fall Show, and the other to run the Spring Show. The meeting was well attended; the Club's membership is restricted to 75, and more than 65 attended to cast their ballots in the strongly-contested election.

Through the courtesy of Minneapolis' Eastman Kodak Store, the trophies awarded in the Club's annual contest were prominently featured in one of the store's attractive window-displays, as shown in the photo above. The trophy in the center, emblematic of First Prize,



New officers of the Davenport-Rock Island-Moline Tri-City Cinema Club. Left to right: Harold Hainline, Trustee; Miss Georgia First, Secretary-Treasurer; Ray Schmidt, President; and Dr. Paul A. White, Vice-President. Photo by Tom Griberg.

was awarded to Dan Billman, Jr.; the one at the left went to Carroll Michener, Second Prize winner; and the one at the right to Third Prize winner Stanley Berglund. This display proved excellent publicity for the Club, bringing a sharp influx of Minneapolis movie-makers interestedly inquiring about prospects of joining the Club—and getting a chance at the trophies via next year's contest.

ROME A. RIEBETH.

Australians Film Comedy

The Australian Amateur Cine Society, of Sydney, N.S.W., has completed filming of an old-time slapstick comedy, complete with custard pies and bathing-girls. The filming was done en masse at the Club's May outing at Lane Cove National Park. About 80 members and their friends attended, and 15 or more cine-cameras enthusiastically filmed the 28 or more scenes of the production in both 16mm. and 8mm., using both black-and-white and color film. Frank Brooks served as producer.

The Club's first June meeting featured showing of several versions of this production, including the "official" version filmed by J. A. Sherlock. The Club's later June meeting was built around a program loaned by the Victorian Amateur Film Society of Melbourne.

The Adelaide Filmo Club reports a novel competition recently held, for films dealing with the Adelaide zoo. The winner was Mr. L. Anderson, who entered a scenario film in monochrome with a dream sequence in color, reported as the first time in the history of the Club that black-and-white and color had been blended successfully.

JAMES A. SHERLOCK,
Publicity Officer.

Utah Screens "Nation Builders"

The June meeting of the Utah Amateur Movie Club, Salt Lake City, was held at the Hotel Newhouse, with Mrs. Al Morton presiding, and about 70 persons present. The program included "Filming in Sequence," by F. K. Fuller; "I Have a Problem," by Al Mor-

ton, and a screening of the AMERICAN CINEMATOGRAPHER prize-winning film, "Nation Builders," by James A. Sherlock of the Australian Amateur Cine Society. The meeting was judged the best-attended and most successful of the year.

JOHN HUEFNER.

Long Beach Sees "Grizzly Gulch"

The July 2nd meeting of the Long Beach Cinema Club featured an outstanding film, "Within these Hills" with sound by J. Glenn Mitchell of Joplin, Missouri, a picture showing the contented life led by the people of the Ozarks. Other pictures shown were, "Ranch Romance" by Lynn Harshbarger; "San Pedro" by Ellen Thunnell; "Old Autos" by Richard Carlyle and rushes were shown of tests taken for "Let's Eat."

At the July 16th meeting, prize-winning bathing beauty parade pictures and the cups awarded were exhibited. Arthur E. Gavin, Editor of Home Movies, gave constructive criticism of the films and told why they were winners. Through the courtesy of William Stull, A.S.C., Editor of THE AMERICAN CINEMATOGRAPHER, the Club was shown one of the best amateur-made scenario productions ever screened. The film, "Grizzly Gulch," 1750 feet 16mm. black-and-white, filmed by Carl Fallberg and Lars Calonijs, was an outstanding example of amateur production.

During the annual Hobby Show at the Municipal Auditorium, July 11-14, members exhibited over 45 different pictures with two evenings being all-request nights. Accompanied by sound and narration, the pictures attracted such crowds that the Club was allowed to use the Convention Hall for the final night and the pictures were screened to an audience of 2000.

RAYMOND FOSHOLDT, Secretary.

Tri-City Elects

The Tri-City Cinema Club (Davenport, Ia., Rock Island and Moline, Ill.) held

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HERE'S HOW

Cine-Meters For Stills

I have a Weston cine-model exposure meter for use with my 16mm. camera. Is it possible to use this meter for calculating exposures on stills? If so, how can I do it?

R. Wheelwright

This can be done quite easily. After setting your film-speed rating in the usual way, set the "camera type" adjustment of the cine meter for a "type B" camera (i.e., one which at the normal



16-frame speed gives an exposure of 1/50th second.) Then, as shown in the illustration, you can utilize the "frames per second" dial according to the following relationships:

Frames Per Second	Still-Camera Shutter Speed
6	1/20
8	1/25
12	1/40
16	1/50
24	1/75
32	1/100
48	1/150
64	1/200
96	1/300

Choose the shutter-speed desired, and set the calculator arrow opposite the corresponding value for frames per second. Then opposite the light-value obtained from the scene you will find the correct f-stop for shooting that picture at the shutter-speed you've chosen.

Dissolves and Wipes

Are wipes and lap-dissolves used for the same purpose? If they are, under what circumstances is it preferable to use one rather than the other? As a general rule is it better to avoid wipes (one scene directly wiping off another) and use lap-dissolves instead? Under what circumstances are wipes better than lap-dissolves?

S. R. Barlow

Wipes and lap-dissolves are both used as a transition to carry your film from one time, place, action or train of thought to another. The lap-dissolve, however, is by far the smoother of the two, and is generally preferable. The

wipe—that is, the true wipe in which one scene apparently pushes or wipes the other from the screen—is, however, a somewhat faster-paced transition than the dissolve. It is, however, more distracting: it calls attention to itself as a cinematic trick, and the audiences's attention is not so likely to follow smoothly from one scene to the next with wipes as with a dissolve.

In general, assuming that the purely mechanical means of making both types of transitions were equally available, we'd be inclined to recommend lap-dissolves for most transitions. Wipes have their uses, though, in such fast-paced visual effects as optical montages and in sequences where montage-like transitions are to synchronize with music.

Incident vs. Reflected Light-readings

Recently I attended a meeting at which there was an interesting discussion of incident versus reflected light-readings when using exposure-meters. We were told by a representative of the General Electric Co.'s meter division that in some instances, as in Kodachroming flowers, by measuring incident rather than reflected light, the dark foliage surrounding the bright flower will not disturb the meter-reading, and truer exposure and color-rendition results. What is the experience of the members of the A.S.C.? Under what conditions do they prefer incident or reflected-light readings? Why do photographic light-meters (electric cell) measure reflected light, whereas commercial lighting engineers use meters to measure incident light? Isn't the strength and quality of the reflected light dependent upon the strength and quality of the incident light?

John Huefner

It has been our experience that where an individual is willing to use his meter intelligently, the incident-light method is decidedly the more accurate. However, if care and intelligence aren't used in making the reading, this method can admit perhaps more inaccuracies than the reflected-light method. In this and the July issues of THE AMERICAN CINEMATOGRAPHER you will find some excellent articles on incident-light reading methods, by P. C. Smethurst, who is England's foremost exposure-metering engineer. We have used an incident-light meter of his design and gotten the most completely uniform exposures on Kodachrome that we have ever obtained by any method.

The general practice among the members of the A.S.C. is to use their meters for incident-light readings when making interiors, and for reflected-light readings when making ordinary exterior scenes. This, however, is in a considerable measure due to their methods of

For many years one of the most important services THE AMERICAN CINEMATOGRAPHER has performed for its readers has been the answering of technical questions about all phases of amateur and professional movie-making. These questions are usually answered by individual letters, to permit going into the necessary detail. However, in response to many requests, we also publish, in abridged form, some of these questions and their answers which we believe may be of interest to other readers. THE EDITOR.

handling interior lighting. In making such scenes, it is their general custom to set the key-light, by means of an incident-light reading, to a predetermined standard. After this, they balance the shadow and filler lighting by eye, to this known correct standard. Since in most cases studio cinematographers work at a fairly standardized stop—ranging in different studios from f:3.5 to f:2.3—with their negative receiving standardized development, this method of working on interiors is faster and more consistent.

In making exteriors, however, due to the constant fluctuation in natural light, they use their meters as conventional exposure-meters, taking conventional reflected-light readings. Many of them would, however, possibly prefer to use the incident-light method under all conditions if equipment were available which made it conveniently possible.

As to your final question, we have talked this matter over with many exposure-meter engineers, and their attitude is this: they consider the reflective value of the scene or subject being photographed fully as important a factor in correct exposure as the strength and quality of the light falling on it. Moreover, while the advanced amateur or professional filmer can very well take this factor into consideration, the less experienced filmer—who is of course in the numerical majority, and who most needs the help a meter can give—is likely to overlook it. So by providing a meter designed mainly for reflected-light readings, they feel they are helping to minimize this error, and thus being of the greatest service to the greatest number of potential users. For the more advanced and particular user, they point out, there are several methods of making the meter more selective, not only in adapting it to incident-light readings as suggested by Smethurst and Capt. Don Norwood, but in reflected-light brightness-range methods, taking separate highlight and shadow readings, etc. Thus they feel that with one basic design they have provided a nearly fool-proof guide for the man who wants simplicity and accuracy, and a precision instrument for the man who, like yourself, wants selectivity and accuracy and can use his meter thoughtfully.

...THE SHOWCASE...



Precision 2 1/4x3 1/4 Kodak Medalist

In line with the growing demand for a camera giving a negative slightly larger than 35mm. minicam size, yet retaining the advanced precision features of the best 35mm. miniatures, Eastman this month announces the Kodak Medalist, stated to be the first 2 1/4x3 1/4 camera combining the ability to use roll-film, cut film, filmpacks or plates and the operating accuracy and conveniences of a minicam. The new super-minicam produces 2 1/4x3 1/4 negatives on 620 roll-film, 520 filmpacks or 6.5x9cm. cut films and plates, the latter feature making possible the use of Kodachrome in cut-film form.

The lens is a Kodak Ektar f:3.5 of 100mm. (4-inch) focus, with all interior glass-air surfaces treated. The shutter is a special model Kodak Supermatic No. 2, an exceptionally accurate between-the-lens shutter of the gear-train type with nine speeds ranging from 1 to 1/400th second, plus bulb. It also has a built-in delayed-exposure mechanism, cable-release socket for remote control, and Photoflash synchronization.

The plunger-type shutter-release is on the body of the camera. After each exposure a red warning-signal appears in a small circular window just back of the depth of field scale, indicating the shutter is not cocked. On winding the film to the next exposure or by cocking the shutter manually, the red signal disappears. Shutter and film-transport are interlocked, to prevent unintentional double-exposures. However a special, separate shutter-cocking lever enables the user to make multiple exposures without advancing the film when such shots are desired.

The lens-mount consists of two helically interthreaded tubular members which support lens and shutter rigidly, offering over 30 inches of metal-to-metal bearing surface, and giving a focal range of from 3 1/2 feet to infinity. In this mount the lens, shutter, etc., do not rotate, but the entire unit is moved forward or back by the action of the threaded tubular sleeve. A coupled depth of field indicator is provided at the top

of the camera-box, greatly simplifying depth of field readings for any lens aperture.

A built-in split-field military type rangefinder is coupled to operate automatically with the lens. The nearby viewfinder is designed to give parallax correction automatically. A special focusing calibration is provided on the distance scale for use when Infra-Red film is employed.

The back of the Kodak Medalist is designed so it can be opened either to the right or the left, or completely removed to permit the use of accessory backs with cut-film, plates or filmpack, and permitting ground-glass focusing. The camera is also designed so that with the proper accessories it can be used as an enlarger.

The Kodak Medalist, without accessories, is priced at \$165.00.

New Weston Repair Service

Weston Electrical Instrument Corp., of Newark, N. J., manufacturers of Weston Photronic exposure-meters, has just announced to dealers a radically new service policy which should find a warm welcome among users of Weston meters. All repairs are to be handled directly at the factory, with the meter completely rebuilt and returned with a certificate of repair certifying that the meter has been placed in first-class operating condition. The routine of repair consists of expert inspection and discovery of the damage, replacement of any unusable or doubtful parts, assembly, and finally the same calibration procedure as for new meters. On older models, such as the 650, 819, etc., new data-plates of the type used on the newer "Master" model will be furnished at no extra charge.

A schedule of standardized prices for these repairs has been established. Repairs have been divided into two classifications, "Group A" Service, when extensive repairs and replacements are indicated; where cases are cracked and internal working-parts severely damaged. The maximum charge for "Group A" service is \$4.50. "Group B" Service is indicated where the meter, though showing no outward damage except possibly a broken glass, is either completely inoperative or reads inaccurately. This is stated to be the usual group for most repairs. The price of "Group B" service is a maximum of \$3.00. Occasionally it may be found that even less extensive repairs than those in the usual "Group B" service will put a meter into first-class condition; in such instances the instrument will be returned at a still lower price.

These prices are stated to apply in all cases when the meter is returned directly to the factory, and to include return parcel post charges and insur-

ance within the U. S. parcel post zones. Air Mail or foreign postage charges are necessarily extra. Where the meter is returned to the factory through a dealer, the dealer may add a slight handling-charge; Weston, however, has recommended that this be held at a maximum of seventy-five cents.

These prices are stated to apply to all Weston exposure-meters with the exception of the older Model 617, Type 1, Model 627, Type 2, and Model 628, for which a slightly higher charge must be made. With this exception, however, *the maximum charge which can be made for completely rejuvenating any Weston meter is now pegged at \$4.50—a most praiseworthy advance in service policy.*

"Blackout" Flashbulbs Available

With press photographers all over the country frantically making tests with home-made infra-red flash equipment for use in possible blackouts, the Wabash Photolamp Corp. has just announced a specially designed flash bulb for the purpose to be known as the Blackout Super-flash.

The Blackout lamps, according to predictions by press photographers and officials of the U. S. Army who observed the early tests, will make history in the photographic profession, as they now make possible and completely practical for the first time instantaneous photography in total darkness with "invisible light." The proverbial "black cat in a coal pile on a stormy night" can now be photographed without even knowing he has been posing for a picture. Besides the obvious use in time of blackouts, the new lamp has many other applications where ordinary visible flash cannot be used. A few instances of these applications are darkened theaters and night clubs, courtrooms, public lectures, symphony concerts, photographic darkrooms, etc.

Essentially, the new Wabash Blackout lamp is a hydronalium wire-filled Super-flash treated and coated with a specially prepared black infra-red filter which dries hard as nails and cannot be damaged by any mechanical, chemical, or atmospheric conditions normally encountered by flash bulbs in any part of the United States. This black infra-red coat serves to hold back the "visible" light produced by the flash. It transmits only the infra-red rays which are invisible to the eye but which register instantly on film when special infra-red sensitive film is used in the camera. Even in total darkness no visible light is shown when the flash goes off.

In application, the lamp can be used in practically any type of reflector, but the best type of results have been

(Continued on Page 403)

The Hollywood Reporter
Preview Poll
for June —

BEST PHOTOGRAPHY
By popular vote of The Critics —

“BLOSSOMS IN THE DUST”

The Metro-Goldwyn-Mayer Production
in

TECHNICOLOR

Photographed By

KARL FREUND, A.S.C.

DIRECTOR OF PHOTORAPHY

and
W. HOWARD GREENE, A.S.C.

FOR TECHNICOLOR



KARL FREUND, A.S.C.



W. HOWARD GREENE, A.S.C.

EASTMAN FILMS
BRULATOUR SERVICE



SCENARIO FOR

A BACK-YARD COMEDY

By CLAUDE W. A. CADARETTE

Founder, L. A. 8mm. Club

EDITOR'S NOTE: Here's a production-tested scenario for a real "back-yard movie." Produced as a 50-foot 8mm. reel, it was a prize-winner for cinefilmer Cadarette in a contest held recently by the Los Angeles 8mm. Club. If longer footage is desired, it can easily be expanded in several places, as, for instance, the introduction, in which "Doakes" wife could be introduced, sternly sending him out to mow the lawn, and in the final chase sequence, which can very easily be built up to greater footage than the few shots used here, and show the two men chasing each other around the house and across the lawn, falling over garden tools, etc. And of course if you want to go in for real, old-fashioned slapstick, there's a natural opportunity in the scene where "Doakes" stares at his shapely new neighbor, and forgets to look which way his hose is squirting—!

Scene 1. Medium-shot of a girl carrying a large box. On the side of the box is lettered the Main Title: "THE NEW NEIGHBOR." After ample time for reading this, the girl turns and shows an end of the box on which is lettered the credit-title, in this case: "By Cadarette." The Girl exits. FADE OUT.

Scene 2. FADE IN. Medium close shot of hose and handle of lawn-mower. Pan right to show Joe Doakes stretched comfortably on the lawn, snoozing, with his head pillowed against the lawnmower's wheel. He stirs, sits up and stretches.

Scene 3. Long-shot. Doakes gets up, stretches again, grasps handle of lawn-mower and starts it toward the camera.

Scene 4. Close-up of mower, moving from right to left.

Scene 5. Close-up of mower, moving from left to right.

Scene 6. Close-up of mower, shot from low camera-angle. Mower comes directly into camera.

Scene 7. Medium-shot, from low angle. In foreground on a box or stand can be seen a box of bug-killer, some garden trowels, etc. The mower and Doakes enter from right in background, apparently through with the lawn mowing. Doakes leaves the mower, and advances toward camera, picking up the trowels.

Scene 8. Close-up of Doakes, as he looks at the two trowels, deciding which one he wants to use.

Scene 9. Insert close-up of box. Hand places the larger trowel on the box.

Scene 10. Long-shot. Doakes advances toward the camera, and squats down by a small tree or shrub. He stretches out lazily and starts to dig the dirt around the shrub's trunk. He looks up and sees something interesting out of the picture.

Scene 11. Low-angle medium-shot, through picket fence. The very attractive legs of a pretty girl (the new neighbor) clad in a sun-suit, pass by.

Scene 12. Same as Scene 10. Doakes exhibits great interest in this addition to the view. He gets up and goes over to where the hose is lying.

Scene 13. Long-shot of the new neighbor moving about her yard.

Scene 14. Medium-shot of Doakes, hosing the lawn very absent-mindedly and staring offstage with a fatuous expression.

Scene 15. Medium long-shot. Doakes' pal, Sam Smith, comes around the corner of the house. He starts to wave a cheery greeting, but stops as he sees the situation. Then he ducks quickly into the back porch.

Scene 16. Long-shot. In the foreground,

Doakes is still absent-mindedly plying the hose, while in the background Sam steals along the porch until he reaches the hose. He kneels by the hose.

Scene 17. Close-up of Sam, kneeling. He picks up the hose in both hands and bends it tightly, shutting off the flow of water.

Scene 18. Close-up of hose nozzle. The water flow suddenly dwindles and stops.

Scene 19. Medium close-shot, from low angle. Doakes slowly discovers something is wrong with the hose. He looks down at the nozzle, pointing it up at his face, wondering what's wrong.

Scene 20. Close-up of Sam, same as Scene 17. He grins, and suddenly lets go of the hose.

Scene 21. Close-up of Joe Doakes, still looking down at the nozzle, wondering what's wrong. Suddenly the water squirts out and showers him bountifully, knocking off his hat. He waves the hose wildly, looking around and sees Sam, then slams the hose down and runs out of scene to left.

Scene 22. Medium-shot of the new neighbor, kneeling for a flower-bush in her yard. She looks up and offstage, sees what is happening in the next yard, and laughs. (You can add a close-up of her laughing face if you wish.)

Scene 23. Doakes chases Sam madly across the yard.

Scene 24. Long-shot down drive-way. Sam, hotly pursued by Joe Doakes, dashes into picture from right, around corner of house, and down driveway, across the street, and along opposite drive, finally disappearing into back-yard of house opposite. FADE OUT.

Scene 25. Close-up of box used for main title: it is now lettered
THE END.

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You'll find it in

CINÉ-KODAK FILM

CHECK your conception of film quality against these basic characteristics of Ciné-Kodak Film:—

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For clear, clean-cut images on larger screens, it's essential that the emulsion of the film be scientifically produced *and processed* to yield and maintain minimum grain. Ciné-Kodak films enjoy that advantage.

PANCHROMATISM

For the most natural black-and-white rendering of color, for most accurate response to filters, wide-band panchromatic sensitivity is essential. All Ciné-Kodak films are highest type panchromatic.

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To attain maximum speed without maximum grain is a tough problem. But in such Ciné-Kodak films as 16-mm. Super-XX and 8-mm. Super-X you'll find the latest and best solution of that problem.

BRILLIANCE

It's a matter of contrast, of latitude, of resolving power or sharpness—all characteristics brought to high refinement in Ciné-Kodak films and maintained in their processing.

COLOR

In full color, Kodachrome's unique capability and ease of use are universally hailed and enjoyed.

VALUE

All Ciné-Kodak films are Kodak-processed without added charge. Their uniform reliability is a quality beyond price, yet prices for all Ciné-Kodak films are attractive and, in terms of value, truly economical.

All this you may possibly have discovered for yourself. Veteran movie makers never forget it.



★ EASTMAN KODAK COMPANY, ROCHESTER, N. Y. ★

BUSINESS MOVIES

UNSUNG HEROES.

Advertising-documentary, 1200-feet Kodachrome, sound.

Presented by Westinghouse Electrical Mfg. Co.

Produced by The Calvin Co.

Recorded on Berndt-Maurer 16mm. recording equipment; Kodachrome duping by The Calvin Co.

IF this picturization of the making and inspections of a Westinghouse refrigerator were in 35mm. Technicolor and bore the name of some top-flight Hollywood major studio like MGM on its credit-title, it might be possible to find enough minor technical flaws to make this review critical and interesting. But "Unsung Heroes" is an example of 16mm. all the way through—photography, sound, special-effects, etc.—so we can only say it is the most completely professional example of 16mm. production our reviewers have ever screened.

From start to finish the film has the sort of professional smoothness you expect in a Hollywood major-studio production, but seldom encounter in 16mm. business films. It starts out with a beautifully professional example of pre-scoring—a lip-synchronized dolly-shot of a "gay 90's" couple riding a "bicycle built for two" and singing. From this delightful opening, while technique and continuity encounter harder going as they tackle the problem of explaining the manufacture and testing of electrical refrigerators to the general audience, the film carries on excellently and interestingly.

Only a few critical suggestions come to mind; none of them of major importance. We would suggest, though, that since the sequence in which the housewife and the manufacturer are shown in close shots asking themselves questions follows the opening, lip-synchronized sequence so closely, these shots should also have been lip-synchronized. Also, in some of the office scenes of dark-clothed men around a conference-table, a bit more light on their clothes (possibly from arcs, if such were available) would have been helpful; similarly more rim-lighting on people shown against dark backgrounds would make them stand out better.

But in general, "Unsung Heroes" is outstanding. The special photographic effects—optical wipes, montages, etc., could not have been bettered in a Hollywood studio. The sound-track is without doubt the finest recording we have yet heard on 16mm. While a rather light track, it none the less had almost double the volume either our reviewers or the projectionist (an experienced 16mm. sound engineer) had ever before heard from a 16mm. track. The quality was excellent, and the volume-levels perfectly uniform from start to finish—high tribute to an excellent re-recording job of the sort seldom seen in 16mm. The Kodachrome-dupe sound print was the finest we've yet seen.

Photography of the Month

Continued from Page 375]

ducer Jesse Lasky worked and waited patiently for 22 years for an opportunity to bring it to the screen—and we can be thankful for every minute of that delay, for the "Sergeant York" that 1941's artistic and technical advances made possible is an infinitely better and more moving document than the best 1919 could have done.

The production camerawork is in itself a tribute to what today's technical resources made it possible for Director of Photography Sol Polito, A.S.C., to do. With the exception of an incredibly few establishing and atmospheric shots, all of these scenes—including the remarkably convincing farm and mountain exteriors of the Three Forks of the Wolf—were filmed indoors on Warner Bros.' huge Stage 7. And there could hardly be a more convincing demonstration of the value of today's methods and resources, to say nothing of the great technical and artistic skill of Cinematographer Polito, than the way these sequences appear on the screen. They are all dramatically important, and thanks to the way they were made on the stage, Polito has been able to control every factor of composition and lighting to bring to each scene the maximum dramatic effect, and do it in a way far superior to anything that could have been done outdoors, especially on location.

The storm sequences are noteworthy examples of their kind, and among the most convincing storms we've ever seen on the screen. Again, filming these scenes on the stage proved conclusively superior to anything that could have been done outside.

Polito's camera-treatment of the story itself is outstanding, though it will inevitably be generally overlooked because of the outstanding character of story and performances, and even because of the great technical achievements Polito has accomplished in filming his exteriors as he has. Yet his camera-treatment is magnificently keyed to the mood of his story—the story of a simple man who struggled mightily with himself and finally did great things. Polito's treatment is appropriately simple, too. Yet it is forceful: it etches each character strongly and unforgettably, though without any trace of theatricality.

The photographic direction of the battle sequences could not have been entrusted to more capable hands than those of Arthur Edson, A.S.C. His past experience on many notable films of this type make it certain that his contribution would be noteworthy: but we doubt if even he has achieved more greatly on such scenes than he does in this production. He has avoided all the photographic clichés of conventional World War I battle scenes, and kept his treatment, like Polito's, perfectly matched to the simple, sincere character of the story. Yet these scenes rank as being

more exciting than many a more-publicized film battle.

A great deal of credit must be given Art Director John Hughes, whose work on the sets—including those spectacular stage-built exteriors—is of the highest order. Much praise, too, must be given Director Howard Hawks who in "Sergeant York" has turned out the sort of picture the much more publicized Frank Capra intended to in "John Doe"—and didn't. Frankly, we want to see "Sergeant York" again, for it is one of those rarely great films which should be seen and studied and enjoyed.

FORCED LANDING

PCA-Paramount Production.

Director of Photography: John Alton, A.S.C.

Special Photographic Effects by: Fred H. Jackman, Jr., A.S.C.

"Forced Landing" isn't one of those pictures that was blessed with a generous schedule and budget. Its cost could probably be expressed in five figures, and if its shooting schedule exceeded a dozen days we'd be very much surprised. But thanks to the artistic skill and careful pre-production planning that Director of Photography John Alton, A.S.C., and Director Gordon Wiles brought to its making, it can hold its own in company 'way out of its actual class. About the only thing that stamps it as one of Hollywood's lesser products is some uncommonly banal dialog.

But from the strictly cinematic point of view, "Forced Landing" is a picture that deserves study. It is uncommonly impressive visually; every scene is a better-than-usual composition which is not only pleasing to the eye, but dramatically forceful. To the studio-trained eye, it is also an absorbing object-lesson in what skilled creators can do to wring "production value" out of microscopic physical resources.

Cinematographer Alton's contribution is excellent. He handles his people very favorably—no small task when working on a quickie schedule—and makes the most of every pictorial opportunity. Some day some astute producer is going to give that man Alton an "A" picture—maybe even a well-nourished "B"—and we're likely to see a new photographic star on the horizon!

The special-effects work by Fred Jackman, Jr., A.S.C., is another highlight of the film—infinitely superior to the indifferent process-work on the same producers' earlier "Power Dive." With the single exception of one scene in which Jackman was forced to use a background-plate reversed from right to left, his contribution is of definitely major-studio calibre.

All told, "Forced Landing" is both technically and artistically a credit to all concerned—and entertaining, to boot.

THE STARS LOOK DOWN

Grafton Film: MGM Release (Produced in England.)

Directors of Photography: Mutz Greenbaum and Henry Harris.

In this scene from the new M-G-M feature "A Woman's Face," you see

THE LATEST TECHNIQUE IN DRAMATIC "MODELLING"



...WITH G-E MAZDA LAMPS IN "INKIES"



● When we asked John Arnold, head of the Camera Department at Metro-Goldwyn-Mayer for some pictures showing the use of lighting in black-and-white photography, he gave us this shot from the production "A Woman's Face."

Few pictures could show more clearly the application of the latest technique in modelling lights. See what flexibility you have with G-E MAZDA lamps in inkie equipment . . . all the lights you want, to create the effect you need, even in limited space.

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GENERAL  ELECTRIC
MAZDA LAMPS

"The Stars Look Down," so we understand, was filmed in England within the last eighteen months. And it is a most unusual picture. Laid among the "north-country" coal-mines, all of the film's exteriors were filmed in an actual mining community. So, too, must many of its interiors, which have every appearance of having been built as "practical" interiors on location. It is just barely possible some of the exterior backgrounds of these scenes may have been put in by skillful process-photography, but if they were, they show a skill equalled by only one of two top-rank specialists in Hollywood, and vastly ahead of anything we've seen from Europe.

The cinematographers, Mutz Greenbaum and Henry Harris, have done a notable job, and one that is ideally in keeping with the locale and mood of the story. They have very capably avoided giving their scenes conventional "studio" lightings, and kept—very appropriately—a realistic mood which more suggests a documentary than a staged production. Yet at the same time they have handled their players and sets very capably indeed. Their treatment of the coal-mine sequences—inevitably filmed in the studio—is particularly praiseworthy, especially the scenes of the disaster.

Art-Director James Carter also deserves credit for very competent and tasteful work, as does Director Carol Reed. The recording, by Norman Daines, suffers somewhat from the common failing of many foreign pictures in that it is at a rather lower volume-level than we are usually accustomed to, and possibly made with the microphone farther from the actors than makes for the best recording.

"The Stars Look Down" is by no means a cheery film, but one that is well worth seeing—especially since it marks the reappearance of one of our favorite character-actresses, Nanci Price.

MANPOWER

Warner Bros.' Production.

Director of Photography: Ernest Haller, A.S.C.

Special Photographic Effects: Byron Haskin, A.S.C. and Hans Koenekamp, A.S.C.

"Manpower" marks a distinct photographic departure—and a most welcome one—for Marlene Dietrich's starring vehicles. It is the first Dietrich film in many a long year in which the action does not periodically stop for the insertion of ultra-glamorized close-ups of that photogenic lady. We've an idea Director of Photography Ernest Haller, A.S.C., and Director Raoul Walsh deserve joint credit for this, which makes the film infinitely stronger as a picture.

That is not to say that Haller hasn't treated Miss Dietrich very well indeed. He has; but by suppressing the glamour-closeups, he has given her a better chance than she has enjoyed in a long time to do the acting of which she is

really capable. She should be thankful.

While the action is kept throughout in a rough-and-ready mood, Haller none the less contrives to make "Manpower" visually effective. This is perhaps most notable in the several sequences showing the power company's line crews at work in stormy weather. That these scenes were filmed indoors, on the stage, is a really notable achievement, for they are some of the most convincing storms we've ever seen on the screen. Haller, and his associates, Haskin and Koenekamp, deserve a world of credit for what they've done.

HOLD THAT GHOST

Universal Production.

Directors of Photography: Elwood Bredell, A.S.C. and Joseph Valentine, A.S.C.

When "Hold That Ghost" was previewed, there was a slight conflict in the film's photographic credits. On the screen, credit was extended solely to Cinematographer Bredell; in the studio's official printed credits, both Bredell and Valentine were credited. As we understand it, when the film was originally made (immediately following the filming, but before the release of "Buck Privates") Bredell directed the photography. Later, after the Abbott and Costello team had made such a sweeping success, the film was put back into work for the addition of the "production value" introductory and closing sequences with Ted Lewis, Mischa Auer, and the Andrews Sisters, with Valentine at the cameras.

In any event, both cinematographers have done excellently. Valentine's contributions are excellently pictorial, and again he does wonders with the by no means photogenic Andrews Sisters—even better, in fact, than he did in their previous appearance in "In The Navy."

Bredell's handling of the production should advance his prestige many a notch upward. The greater part of the action takes place in a haunted house, with the inevitable effect-lightings such a locale would inspire. Bredell handles these very artistically, yet so skillfully that no comedy action is lost because of his pictorial shadowing—a more than praiseworthy achievement. To this writer, as apparently to many of the preview audience, a standout scene was that in which Costello, timorously seeking the missing Charlie Smith in the basement of the abandoned inn, fearing to come down into the basement, stands at the head of the stairs and quavers "Oh, Charlie." This scene is played entirely in an effect-lighted long-shot—with the star shown only by his feet and a long shadow. This concept, together with Bredell's lighting, makes the scene infinitely more effective and amusing than any more literal treatment could.

Bredell deals excellently with the players, presenting the two feminine principals—Evelyn Ankers and Joan Davis—to especial advantage.

The print previewed seemed, even for low-key effect-lightings, a trifle darker than was altogether pleasing. This was particularly true in the opening and closing sequences, in which the face-values were distinctly poor. It would seem that—especially in these sequences—the release-prints could to advantage be lightened by one or even two printer-lights.

RINGSIDE MAISIE

MGM Production.

Director of Photography: Charles Lawton, Jr., A.S.C.

Cinematographer Lawton's contribution to this, the latest of the "Maisie" series, is a distinguished one. It is in many ways reminiscent of the style of his former teacher and associate, George Folsey, A.S.C., and a far better job than he did on his previous release, "The Big Store."

His treatment of the players is, as always, excellent, and the film and its settings give him excellent opportunities for creating visual mood, of which he takes full advantage. There are some excellent exteriors, and in several sequences some very good effect-lighting.

The uncredited special-effects work is good, though in some of the scenes where Ann Sothern and Robert Sterling are seen riding in the station-wagon the perspectives of foreground and background-plate are rather badly out of coordination. This is especially noticeable in the shots where the car is supposed to be negotiating curving roads.

WIDE OPEN TOWN

Harry Sherman Production; Paramount Release.

Director of Photography: Russell Harlan, A.S.C.

Director of Photography Russell Harlan, A.S.C., has given this "western" a very creditable photographic mounting. Filmed in the picturesque country around Lone Pine, California, at the foot of Mt. Whitney, Harlan has some of the most spectacular outdoor locations in the country at his disposal, and he brings them to the screen in a way that should interest any lover of fine exterior photography. His compositions and filtering are outstanding. As regards the latter, especially, he deserves credit. So often in working on a location of this nature there is a temptation to enhance the pictorial effect by over-filtering in the pictorial long-shots—a pitfall which, of course, makes the closer shots, in which for the preservation of face-tones, overcorrection cannot well be used, stand out as unpleasantly different from the intercut long-shots. But Harlan wisely keeps his filtering tastefully conservative, and close-ups and long-shots match up very smoothly.

His treatment of the film's interiors is also commendable. Simple and straightforward, his compositions and lightings are none the less capably handled.

A FREE HAND

NEW lightings, new camera angles enliven today's screen productions. Complete confidence in the wide latitude and unvarying uniformity of Eastman negative films encourages directors and cameramen to take full advantage of every dramatic situation. Eastman Kodak Company, Rochester, N. Y.

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when little light is available

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for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS

Design for the Camera

(Continued from Page 367)

originality was the fact that he did something so supremely logical most of the rest of us never think of doing it. Coming into film-production "cold," with no previous experience, he obtained the services of Gregg Toland, A.S.C., one of the industry's most brilliant directors of photography, and made full use of his experience in visual dramatization! "Citizen Kane" was in production for some 18 or 19 weeks—but before starting camerawork, Toland spent an additional eight or ten weeks preparing the script with Welles, and coordinating the physical aspects of production with Art-Director Perry Ferguson. This wasn't accidental—and because of it, "Citizen Kane's" amazing artistic and technical vitality weren't accidental, either!

I have no means of knowing whether a sketched scene-plot such as I've described was used, but the principle, in any event, was there, and paid dividends. And as an incidental side-light on the benefits this thorough-going co-operation yielded, let me point out that in his article on the film's production in the February issue of THE AMERICAN CINEMATOGRAPHER, Toland remarked that Art-Director Ferguson constructed the production's 110 sets for the remarkably small expenditure of \$60,000.

To my mind, this could be possible only because their pre-production planning had shown Welles, Toland and Ferguson exactly what angles and compositions were to be used on every bit of action, so that each set could be designed strictly for the compositions that were to be filmed on it, with no wasted construction left over for "protection-shots." Everything built, I am sure, reached the screen; and in some instances, such as the "Xanadu" set, this careful planning clearly permitted the camera to suggest things which no degree of literal (and expensive) set-construction could have put over so effectively.

About this point I seem to hear a voice or two remarking that a system like this is possible on a film like "Citizen Kane," budgeted at well over the million-dollar mark, but it would be economically impractical on an average program film. But—I have just utilized it on a program film, "Forced Landing," which had a budget very considerably less than one-tenth that of "Citizen Kane's," and a shooting schedule of ten days! "Forced Landing" has received a very flattering reception from both critics and public, a reception which I feel is not so much a tribute to the individual skill of any of us who made the picture as to the practical workability of the system of pre-production visualization we used. It enabled us to put much more in pictorial effectiveness on the screen than would have been possible otherwise, and—more

important—to make each frame of film a more dramatically vital composition than could have been possible conventionally.

I must admit that production conditions did not permit as extensive pre-production conferences between Director of Photography John Alton, A.S.C., Art-Director F. Paul Syllos, the writers, producers, and myself as might be desired. But there was at any rate enough so the picture was much the better for it.

Here's how we worked. Every scene and set-up in "Forced Landing" was broken down into its inherent visual compositions, and sketched, as shown in the illustration on Page 366. This gave us a complete script in visual form.

Then we made recordings of the dialog, using stock players as vocal stand-ins. Playing these recordings while we studied the sketches that went with each shot gave us a virtually complete pre-production "preview" of the picture before a single inch of film had been exposed. We studied and re-studied this, breaking things down, tearing scenes, dialog and compositions apart and putting them back together again until we felt we had achieved the strongest visual and spoken presentation possible in the time at our disposal.

With this visual presentation set, we built our sets. And because we knew exactly what compositions were going to be shot on each, we were able to build economically. We built precisely what the camera—in a specified set-up and with a specified lens—would take in, and no more. Repeatedly, if the camera had been moved a small fraction of an inch, or a lens used with an angle a degree or so wider, our shot would have showed something far removed from our mythical Latin-American background!

Several of our interiors were built on revolving platforms inside the stages. The lighting set-up—pre-planned by Director of Photography Alton—was fixed on paralleling completely independent of the set-construction. So when we finished with that set, the revolving platform gave a twirl, and a new set was spun into place beneath the lighting set-up. Turning off a few overhead lamps here, turning on a few there, and moving into place a minimum number of floor units—and Alton was ready to shoot! In several instances, too, we collaborated in advance on set-lighting, painting in leading shadows and highlights. With this, a minimum of "general" lighting pretty well took care of the set, and all Alton had to worry about was the personal lighting on the players.

Cheating—? Of course! But it was cheating with a purpose—to make the most of everything we had available to work with, to the end that we might put on the screen the most completely effective picture possible. And unlike the kind of "cheating" so often done on productions where schedule and budget offer restrictions, it wasn't a

matter of "cheating" blindly, in the hope that we'd get away with it; instead, it was working with a carefully-planned purpose, knowing at every turn what we were doing, and what we could put on the screen.

Frankly, both Alton and I found it made our work easier, and brought us both greater credit for turning out a picture that had greater "production value" and more dramatic impact than is usual in the short-schedule field. With all due credit to the efforts of our very talented cast, I am convinced they could not have produced half the dramatic impression they did had they not had the advantage of this thoroughly pre-planned visual presentation, which made their efforts count doubly.

And that we followed out our plan is, I think, clearly indicated by a comparison of the sketch shown on Page 366 and the production-still of the same scene shown on the opposite page. Minor details of costuming, set-dressing, and the like naturally differ, and the groupings differ since the still was made of a slightly later phase of the action than shown by the sketch. But the basic composition is there—and so, too, is the dramatic "punch" we visualized when we planned our camera and directorial treatment of that particular action.

So successfully did these ideas work out on "Forced Landing" that I am planning to carry the plan a step farther on my next production. In addition to the sketches and the recording of dialog by stock players, I am planning to supplement the sketches by making "Leica" stills of the various compositions as enacted by stock players—in some cases supplementing the sketches, in others perhaps supplanting them. In this way, we can then take the producers into a projection-room and give them *on the screen* a complete eye-and-ear preview of their production before shooting starts.

It may be objected by some short-sighted people that all this pre-production planning would necessitate greater pre-shooting expenditures. I don't think there would be enough to make any difference. The director, the art-director and in all probability the writers are already on salary; the added cost of calling the director of photography into such consultation a few days ahead of the start of shooting on a program picture, or even a week or so in the case of a larger picture, is certainly not prohibitive even if the cinematographer involved were one of the industry's highest-salaried artists. At most it could only amount to a few hundred dollars. And it would save that many times over in more economical set-construction and more efficient work all around on the set. And it would, as we have proved, pay an incalculable bonus in a better, more forceful picture put on the screen with less effort. END.

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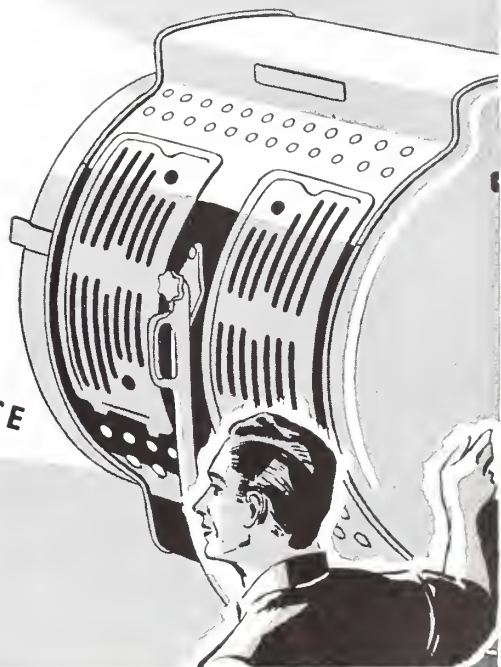
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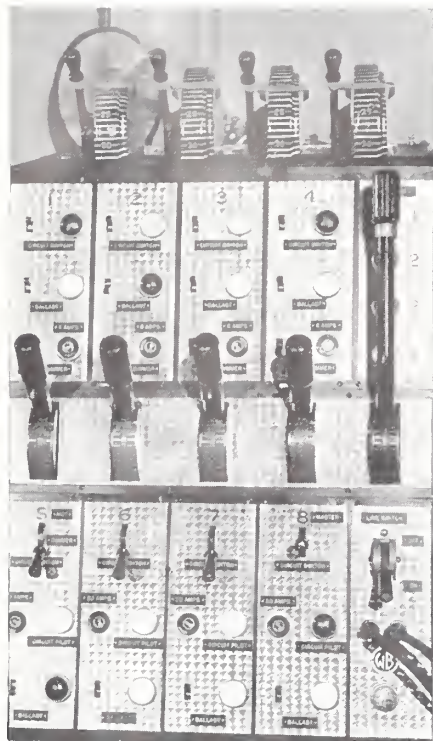
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Lighting Switchboard

(Continued from Page 368)

master, a numbered amber pilot lights up by the master handle.

Across the center of the board is a row of calibrated, interlocking dimmer



handles. Four of these control Ward Leonard 110-step, 1000-2000-Watt dual-rated dimmers. These dimmers have a capacity of 2000 Watts but will dim a 1000-Watt out without any ballast. When a 500-Watt ballast is connected across them they will dim a 500-Watt load completely out.

The large handle on the right is the master handle.

Directly below these dimmer handles are the circuit switches. These are Frank Adams theatre switches and they are two-pole double-throw with off position. They are rated at 30 amps. When this switch is in the up position, the circuit is on "hot" without the dimmer. The center position is off, and the down position connects the dimmer into the circuit.

Below this switch is a fuse and a green pilot-light, indicating when the control circuit is on.

In the bottom row is the ballast switch with its read pilot light.

The line switch in the lower right-hand corner is a Mole-Richardson brush type switch such as is used on their 150 amp. arcs.

Kleigl pockets are installed in the side of the console for each of the dimmer circuits as well as various "hot" outlets. A dummy plug is inserted in pocket No. 8 when it is being used as the master.

The entire equipment is mounted on an iron framework covered with sheet

steel with shelt-x ventilating inserts. Doors are provided to give access to the dimmer contacts and the ballast lamps. The front panels are of burled duralumin. The chassis is mounted on solid-rubber wheels and has a tongue for towing, and lifting bars on the sides.

A small work light is also provided to aid the operator in seeing the calibration marks on the dimmer handles.

END.

Background Action

(Continued from Page 369)

paratively few patrons may actually be there.

We can use the same trick—and get the same result—in filming scenes of a similar nature. Properly grouped, a skillful director or cinematographer can make an economically small handful of extras seem like a much larger crowd.

As a matter of fact, I have only once seen an actual crowd packed tightly together like sardines. That was some years ago in Naples, when I saw Mussolini addressing an enormous audience in that city's great square. But everywhere else, I've noticed that no matter how many people get together, regardless of race, color or nationality, the average human likes a bit of elbow-room, even in a crowd. It's a psychological fact we can put to work to good advantage in filming our crowd scenes!

Another highly important aspect of coordinating the background and foreground elements of a scene is avoiding distracting tonal contrasts. This is a particularly ticklish thing for a director to guard against, for he is not likely to know the photographic values of fabrics, etc., as thoroughly as does his colleague at the camera. Therefore, when the director is picking out extras to carry on background action in closer shots of his principals, he will, if he is wise, check this detail thoroughly with his director of photography. And the man at the camera should certainly tell him, if this advice isn't asked, that this girl in the blue dress is likely to make a distracting, light-toned spot in the background, and it would be better to use that other one in the photographically darker green costume.

This detail is becoming increasingly important in making Technicolor pictures. The color camera, as we're beginning to learn, has peculiar affinities for certain colors. And these affinities do not always coincide with the visual appearance of a fabric. Often two fabrics which are visually very similar—even identical—shades will photograph quite differently.

I think this was well brought out in *THE AMERICAN CINEMATOPHILE'S* review of a recent Technicolor production, in which it was pointed out that in one scene an extra girl, wearing a certain shade of blue, repeatedly distracted attention from the star simply because of the peculiarly penetrating quality of that particular shade of blue. This was true, even though the blue-clad extra was positioned some thirty or forty feet

behind the star! A costume of almost any other coloring, so the color-experts tell me, would have been inconspicuous in that scene; but that particular shade of blue caught and held the eye even though one of the industry's most attractive feminine stars was singing in the immediate foreground.

In checking these and innumerable similar details, the services of an alert operative cameraman are invaluable to both director and cinematographer. The director is usually busy with the principals. The director of photography is usually equally busy with his gaffer, arranging the lighting. But the camera-operator sits there with his eye glued to the finder—and if that eye is really open, he can often detect these flaws before either director or cinematographer have a chance to notice them. Therefore, while the operative is usually classed as the cinematographer's right-hand man, I feel he can be fully as valuable to the director, too. An operative, for example, like Maurie Gertzman, who has operated the camera for Milton Krasner, A.S.C., on our last two productions, and is both willing and able to make constructive suggestions to both of us, is a real asset to any troupe. After all, even though director and cinematographer may take the greatest pains to avoid any of these compositional conflicts between foreground and background action, checking the scene through the finder before each take, and riding the boom or dolly, the operative is the only man who is actually following the scene through the finder during the take—and he is the only man who can accurately spot these little mistakes before they show up on the screen!

In closing, I hope that this necessarily brief discussion of one of the detail problems confronting both director and cinematographer may prove of constructive value to members of both professions. We can all use more such discussions, from members of both crafts, for only as we all of us work together can we come closer to our joint goal of making consistently better pictures. END.

Canada's War Movies

(Continued from Page 370)

duced films which actually had widespread theatre circulation and for which rental was paid by theatres.

"The River," "The Plow that Broke the Plains," and "The Fight for Life," chalked up extensive theatre circulation.

John Grierson in his work for Canada is doing what Pare Lorentz did in the U.S., with the additional advantage of having a determination and a need to produce on schedule and not for art's sake alone. Lorentz hardly ever figured on regulated time and effort as essential to full success, but Grierson has included driving power to maintain a production schedule in his National Film Board set-up.

Keeping pace with the March of Time, Grierson produces and releases on schedule a different feature each month on the

Canadian War Effort. Like the March of Time, the National Film Board started out with its own editorial staff, but without camera units or processing plants. Both conceived, planned and directed pictures but farmed out the camera and laboratory work. Like the March of Time, the National Film Board since June, 1941, has had its own laboratory and camera crews on its direct staff. However, the work of the National Film Board has become so extensive that it still needs to engage the service of commercial producers to handle additional productions and technical work under National Film Board direction.

In addition to scheduled monthly production work, the National Film Board envisions a far greater activity past the era of war into peace and reconstruction of the future. It plans to use film to enliven and cement the interest of the common man and woman in public affairs and in the daily life of Canadians.

The National Film Board enjoys the complete backing of the Government. In the Spring of 1939 the Dominion Parliament passed the National Film Act which authorized the establishment of the National Film Board consisting of the Minister of Trade and Commerce, one other member of the Privy Council of Canada, three representative civil servants and three laymen. It was this Board which named John Grierson as Film Commissioner.

Some of the outstanding releases which Grierson's staff has produced and released for the "Canada Carries On" series are, "Atlantic Patrol," portraying the part that Canadian Destroyers are playing in the Battle of the Atlantic; "Home Front," which shows women in their part; "Front of Steel" and "Wings of Youth," "Churchill's Island," "Strategy of Metals," "People of Canada," "Guards of the North," etc.

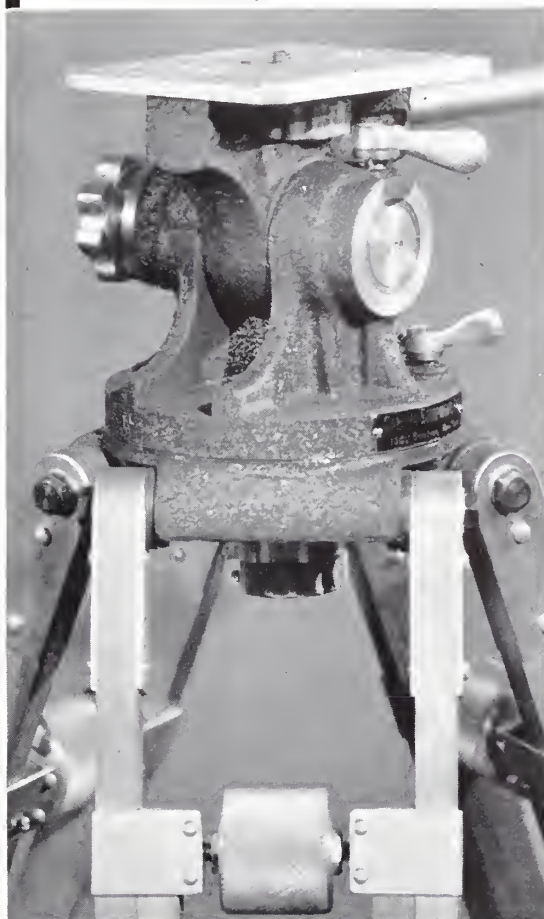
In short, the National Film Board comes into the Government Production field much as an efficiency-expert enters a factory to track down leakage of supplies and effort or to supervise and co-ordinate activity so that the maximum peak of efficiency may be realized with the means at command.

For example, should the National Parks Bureau decide that they needed a film to carry on their particular work, they will consult with the Government Film Commissioner and decide how the money they have available can be spent to the greatest advantage. Likewise if the Agriculture Department might want to explain the value of tree-planting and wind-breaks on the prairie, or the National Galleries may want to show how Canadian artists work, the idea is submitted to the National Film Board first.

Backed by a long experience in production and distribution, Grierson is thus able first to plan a production that will use to the fullest extent the power of real motion picture technique, and second, one which will squarely meet the competitive requirements of films for theatre as well as non-theatrical distribution. **END.**

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"Professional Jr." tripods are being used by many leading News-reel companies, 16mm and 35mm Sound Studios for all important work.

Left: 16mm Eastman Cine Special mounted on "Professional Jr."

Right: 35mm Eyemo with motor and 400 ft. magazines mounted on "Professional Jr."

CAMERA EQUIPMENT CO.

1600 Broadway
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Underwater Movies

(Continued from Page 371)

enough to flatten an ordinary open-air shot unpleasantly, flattens out an underwater shot so much more that it is completely unusable.

As regards exposure, we found that our Weston meters were quite as accurate reading on an underwater scene from the camera-bell as they are for ordinary open-air shots. We simply held the meter close to the glass porthole, took the meter-reading, and followed it in the usual way. The results were perfect.

Focusing, as is well known, proved a

more difficult problem. Fortunately Len Smith, A.S.C., in filming the previous Tarzan film's underwater scenes, had given us ample data to simplify this problem. The refraction of the image-forming light rays passing through the water tends to "bend" the focus forward (away from the lens), so that if you are filming an object, say nine measured feet away from the lens, and focus your camera at that distance, your point of actual focus will fall three or four feet behind the point you want to focus.

Therefore we made it a rule in filming our underwater scenes to focus the camera at a point 1/3 closer than the actual

subject-distance. In the case of an object 9 feet from the lens, for example, we would set the focus at the 6-foot calibration—and the scene would be in perfect focus.

Obviously it was impossible to run an actual tape underwater from camera to submerged subject: sometimes we could, however, measure the distance on the surface, measuring from the camera-bell to a boat rowed out to the point where we knew "Tarzan" Weissmuller was scheduled to dive into the water. More often, though, we took these measurements above water with a "Leica" optical rangefinder, lopped off one-third to compensate for refraction, and shot. The results, we found, were equally accurate—so much so as to make one wonder if a similar rangefinder might not be a time-saving accessory for many shots in the studio. Assistant Baldwin, by the way, deserves a great deal of credit for the way he executed the many complicated follow-focus shots in the cramped space of the camera-bell as he followed Weissmuller and the others swimming and diving toward and away from the lens.

Many of the required shots demanded a considerable amount of panning—and, as I have said, the restricted size of the camera-port made the camera's actual range of movement very limited. So we finally conceived the idea of panning the entire photographing bell. We used the old reliable adhesive tape—that invaluable accessory without which no modern camera-crew ever attempts to work—to provide a sighting-mark on the top of the camera-tube. This tape was lined up directly with the lens. To pan the camera, it was only necessary to keep this sighting-strip in line with the underwater actors, who were clearly visible from above through the clear water.

Skillful work on the part of Operative Lane compensated for any minor errors in rotating the camera-tube. I've heard of plenty of times where a Director of Photography panned his camera, and some when he "panned" his operative—but this is the first instance I've ever known where he could pan both—literally—at the same time!

Another unusual phase of our work was "dressing" the underwater sets. Wherever possible we saw to it that our sets had a background of clear, white sand. Then, to get a feeling of depth, we "dressed" the scene with dark, natural objects such as water-plants, weeds, logs and so on. Each of these had, as a rule, to be carefully "planted" in the desired spot. In this, as in innumerable other details of our underwater movie-making, the cooperation of the resort's manager, the famous underwater swimmer Newton Perry, proved invaluable. He has probably appeared in more underwater films than any other swimmer, and has, I believe, descended to greater depths without the use of a diving helmet than anyone else. The much-publicized pearl-divers of the South Seas are no more at home under water than he—and when he and Weissmuller both sported about under the surface it was really a sight worth seeing!

A particularly amusing part of the daily routine was the way Perry would clear away the small underwater growths and sediment which would appear overnight on our set's white sand floor. With a pair of huge, webbed "swimming fins" attached to his feet, he would swim slowly along the bottom, gently sweeping the sand with his huge rubber toes, looking for all the world like one of Walt Disney's more fanciful creations!

One of the most amusing and effective

shots that we made was one of the baby elephant, Bulla, swimming underwater, with "Tarzan" Weissmuller, "Mrs. Tarzan," and "Tarzan, Jr.," (Johnny Sheffield) stroking along to complete the procession. The elephant's whole body was under water—trunk and all—and to see his eye peering at you, while his four stumpy legs beat the water, is really a most unusual sight. To my mind it is a highlight among the many unusual underwater shots—some of them individually perhaps more spectacular—that we made. See if you don't agree with me when you see it in the completed picture!

Joe Valentine

(Continued from Page 372)

typed as today's exterior and location specialists who, until a chance assignment to a picture calling for spectacular exteriors, were regarded as interior specialists!"

Joe Valentine's comments on versatility are more than just conversation. His work bears them out. For the last half-dozen years he has been one of Universal's top-ranking glamour-specialists; until a few weeks ago, when a sudden conflict in schedules found him assigned to filming Margaret Sullivan's current film, Valentine had photographed all of the pictures starring Deanna Durbin. Some of these, with others like "Wings Over Honolulu," carried his name into the exclusive circle of Academy Award nominees with almost clock-like regularity. Yet he is equally at home on an outdoor picture or a comedy such as Abbott and Costello's "In The Navy."

A few years ago, he toured Europe filming process backgrounds in some fifteen countries for the Fox studio. He was, by the way, one of those who was working with the idea of re-photographing a projected image for background purposes when the introduction of the first supersensitive emulsions made the process spring up, mushroom-like, in every studio. Even today he is one of the few 'production' cinematographers who insists on handling much of the process work in his films himself, rather than leaving it to a special-process specialist.

Constantly experimenting, both with 35mm. equipment in the studio and with 16mm. equipment in his home, he has fathered a number of useful inventions. Among them may be mentioned a recently-patented optical attachment for increasing focal depth and roundness; another for creating the effect of a mirrored floor on an ordinary stage; and such special lighting equipment as his "Durbinette," which was one of the first—and most logical—adaptations of fluorescent lighting to cinematography.

Valentine pioneered the use of super-fast emulsions like "Super-XX" for production camerawork. When he began it cinematographers, and even many film-company technicians, considered he was impetuously chasing wild geese. But since then two of the productions he photographed on that apparently "special-purpose" emulsion have been Academy Award nominations—and to-

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day top-ranking cinematographers in almost every other studio have followed suit, and some of the most photographically notable productions of the year have been photographed on this stock which everyone but Joe once said was unsuited to production camerawork!

He's versatile in other fields, too. With a still camera he is a top-ranking artist in two fields—pictorial exterior photography and studio portraits. In this, as in his more recent screen work, his technique tends more toward the sharply-defined modern school than that of the conventional, soft-focus pictorialists. While studio assignments give him small time to indulge in still work, his stills have none the less been hung in a number of outstanding International salons, receiving, as one did in pre-war Paris, premier awards wherever such distinctions are given.

With all of this he retains the same breezy self-assurance and cheerfulness which won him that first studio job so many years ago. He takes his work seriously, to be sure, but—well, we've visited him on many a set, working with many different stars and directors, and while we've found him impatient at times, and irritated, when technical problems piled up, we've never yet encountered Joe Valentine at a time when his good humor was wholly missing. Somehow, we've an idea no troupe with which Valentine was working could ever be one of those tense, humorless ones where everyone tiptoes about with bated breath. If they did, a wisecrack from this cocky little Italian who takes greater pride in his skill as a spaghetti-chef than in the honors his camera has won him, would assuredly rip through the tension to turn the awed geniuses into human beings again. Come to think of it, we could name quite a few directors and stars who would be a lot more valuable to the industry if they could make a picture or two with "Sir Joseph!" **END.**

Miniature Bottle

(Continued from Page 377)

correct "normal" speed for running your projector in recording and showing these non-synchronous sound movies. Of course, if you can use a projector with a constant-speed motor, like a two-speed sound-projector when switched to its 16-frame silent-picture speed, that detail will be automatically taken care of. But in most cases—mine, anyway—you'll be working with a variable-speed silent projector. I set my projector, both when we were making the original synchronized recording, and when showing the picture, to run at the slowest possible speed—just above the point where a flicker is visible on the screen. Keeping the projector always at this speed, I've had very good success in keeping picture and record synchronized.

All told, table-top moviemaking has proven itself to me as one of the most fascinating branches of photography I've ever attempted, and one I can enthu-

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siastically recommend to other 16mm. and 8mm. movie-makers.

But—one last warning: with film racing through your camera at 48-frame speed, a 100-foot roll will be exposed in less than a minute and a quarter of shooting time—so at eight cents a foot you may have to give up cigarettes for a while! I did! **END.**

"Dream Home"

(Continued from Page 379)

the like. A light-tight door gives access to the darkroom proper.

Along one side of this darkroom is Fosholdt's drum-type developing-ma-

chine. Half-cylindrical tanks hold the various solutions—developer, bleach, re-developer, hypo, and so on, required for reversal processing, with several devoted exclusively to washing. In these rinsing-tanks, perforated pipes are arranged to throw a constant spray of water on the film being washed; Fosholdt has found from experience that half the secret of doing first-class home processing is to give the film really thorough washing between each chemical step.

In processing, the film is carried on ribbed drums which are revolved slowly inside the half-cylindrical tanks. The construction of these drums is interesting in itself. They are the third set

Fosholdt has built for use in this and previous darkrooms. At first glance, they seem to be simple enough—just good-sized cylindrical drums, with a spiral bead along their faces to keep the film in place. But providing that little spiral ridge proved an interesting problem. "At first," says Fosholdt, "I made that spiral by simply soldering a wire around the face of the drum, winding it in a spiral, of course. That's none too easy to do, though, and you can never be sure that the wire is really firmly anchored; it is always likely to break loose just at the wrong moment. Besides, the wire doesn't give a deep enough groove to accept the film easily when you're loading the drum in the dark, or to hold it well after the moistened film stretches.

"The next set I made with a somewhat deeper metal bead; but this, too, wasn't a very successful piece of construction. Finally I hit upon the present idea. It's more complicated in the making, but it is sturdy and dependable in use. Beginning with a flat-surfaced drum, I had a sheet-metal shop make up a long strip of metal of the desired width, with one edge bent at right angles and about a quarter of an inch deep. Then I simply wound this around the drum spirally. I had a strip slightly wider than 16mm. film to solder to the drum, so it could be given a really rigid attachment. Then the ¼-inch flange projected upward to guide the film onto the drum, and separate the successive windings. With this arrangement I can simply put my reel of exposed film in a spindle, or hold it in my hand, attach one end of the film to the drum, and load the drum automatically by simply spinning it round. When you come to the end of the film, all that's necessary is to clip the end in place with a strip of scotch tape, and you're ready to start processing."

In use, the drums are moved from tank to tank by hand; but when in place in any of the tanks, they are revolved by motor. A long shaft extends the length of the tankage, with appropriate belts and pulleys below each tank. The drum has a similar pulley on the end of its shaft, so that all that is necessary is to connect the belt from the main drive-shaft to the drum. The governor and gearing from a discarded phonograph-motor serve as a reduction gearing for this drive, and the power comes from a small electric motor.

After the final rinse, the film is wound onto folding wooden drying-racks, as shown in the illustration. A supporting block on the wall holds up one end of the drying-rack, while a hinged wooden arm, normally folded down out of the way, is swung up to hold the other end of the rack. Then all that is necessary is to clip one end of the film to the rack, and spin the rack: guided by the spiral groove in the developing-drum, the film feeds out into a neat spiral around the drying-rack. Fastening the other end of the film with a rubber-band tensioned clip, to allow for the film's shrinkage in drying, the rack is loaded.

It is then transferred to the drying-box, where an electric fan and heating-coil circulate a current of warm air through the box—which is large enough to hold several racks of film—and the film can be dried and ready for projection within a few minutes.

LaNelle Fosholdt is just as enthusiastic about this home studio set-up as is her husband. "Ray was the original movie-maker of the family," she says, "but I soon decided that if I wanted to keep on having a husband, I'd better get interested in his hobby, too. I didn't have any particular inclination toward camerawork, but I knew there must be some phase of movie-making I could get

interested in that would help Ray. I found it in planning pictures and writing scripts. Now we really make our pictures together—and I get just as much fun out of it all as Ray does.

"But that didn't help things much when Ray became interested in home processing, and we didn't have a darkroom. He had to share a darkroom with another movie-making friend who lived way over on the other side of town. Whenever Ray had some film to process, he would naturally go over to his friend's, promising, like a good husband, that he'd be home early. But just as naturally, like any enthusiastic photographer, he'd usually grow so interested in what he was doing that he lost all track of time.

"But with this darkroom, he does his work here at home. We have a little intercommunicating telephone-line between the darkroom, the projection-room and the house, so no matter what he is doing, I can always keep in touch with him. And since we've had this home studio set-up, instead of Ray's going out to see his movie-making friends, they naturally gravitate here to see us, so our home and social life quite naturally center around our hobby and the place we've made for it in our home.

"Ray and I have been married quite a few years, but since we've both found our spheres of interest in this movie-making hobby, and built this home around it, we're closer together than we've ever been."

Which is why the Fosholdts' movie-maker's "dream home" seems to be a "dream home" in more ways than one—and as such, at once an ideal and an inspiration to all movie-making households. END.

Cameraman's Tips

(Continued from Page 381)

shooting, his Weston "Master" comes out to give him a final check for perfect exposure! I've found it pays in my private picture-making, too.

Harry has another little gadget that I've appropriated and found extremely useful, too. It's a little rotary-dial type calculator put out as an advertisement by one of the Hollywood camera-rental firms. With it, once your meter has told you what the unfiltered exposure for a shot ought to be, this gadget tells you at a glance just what exposure to use for almost any combination of film and filtering; it also tells how to compensate your diaphragm-setting to keep the exposure right when you use camera-speeds above or below normal.

If you haven't one of those calculators, though, Harry has another trick that helps keep exposures uniform. Simply divide your meter's film-speed setting by the factor of the filter you're using, and re-set the meter's speed dial according to the result. From then on until you change filters you can just take the meter's reading directly, and automatically get the correct exposure

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for that filter. The same thing works, too, for camera-speeds: you divide by the number of times above normal, or multiply by the number of times below normal—and your exposures come out right on the dot!

There's another exposure-compensating trick a professional like Harry uses that can solve a serious problem for amateurs. Did you ever try to make a panning shot where your actors walked from the shade into bright sunlight, or the reverse? If you have, you know that if you set your exposure for the sunlight end, the shaded part will be badly underexposed, while if your exposure is right for the shadowed part, the sunlight end of the move will be badly "burned up."

A professional simply "follows focus" on his exposure, by increasing or decreasing the shutter-opening to give him more or less exposure, as may be needed. You can do that with a Cine-Special and some few other cine-cameras that have adjustable shutters. With others, like my Bell & Howell 70-D, you can get much the same effect by opening or closing the lens' diaphragm—closing it as the subject walks into the sunlight, or opening it as he moves into the shade. You can't do it if you insist on holding the camera in your hand, but if you use a tripod you'll find it can be done easily and accurately after a little practice. Theoretically, changing the stop during a shot should make some difference in depth and definition, but in practice, with the short-focus lenses used on 16mm. and 8mm. cameras, this isn't so important—any way, it isn't nearly as noticeable as a blacked-out underexposure or a washed-out overexposure!

All told, any actor who makes a hobby of photography can pick up a lot of practical pointers if he'll only keep his eyes open while his director of photography is arranging the next set-up. And cinematographers being the grand fellows they are, it can develop into a friendly rivalry that's lots of fun. Harry, for example, ruthlessly criticizes my favorite prints, and finds faults with all my pet 16mm. shots—and for my part of the game, I keep my eyes open to see if I can find fault with the way he's lighting me and my fellow-players. Once in a while I catch him, but taken as a whole the advantage is all with him, for after all, he's a seasoned professional while I'm still a photographic amateur. But we have lots of fun at it, anyway! **END.**

Camera Tricks

(Continued from Page 380)

used to put something in at the top of the frame, it doesn't by any means follow that that's the only way they can be used. Obviously, if your real scene and the painting are carefully blended, you can use the painting to add, say, a gully in the foreground, or something at one side of the frame or the other. Sometimes you can use photographs

instead of paintings for such shots. A.S.C. President Fred Jackman still has a reel of tests he made with the process about twenty-five years ago, when he did just that. One of his associates at the old Sennett studio had been around the world, and sent back a lot of picture postcards of various famous scenic spots. Fred simply took a couple of the famed Sennett Bathing Beauties and stood them up in front of a stucco fence a bit taller than the girls were. Then by very carefully using the glass-shot technique with the postcards, placed in front of his lens, he successively placed the Acropolis, the Taj Mahal, Mt. Everest, the pyramids, and several similar scenes in the background, showing up quite naturally above the top of the fence!

A three-dimensional development of this idea is still used now and then today. It is called the "front miniature." The basic principle is much the same as that of the glass shot, except that a three-dimensional miniature of the desired addition to the scene is placed in front of the lens instead of a painting.

Like the glass-shot painting, this miniature must be very precisely coordinated in design and perspective with the actual part of the scene. Since it is much closer to the lens than the real set, it can of course be made comparatively small. Sometimes, once you know how to manage the design and construction of such miniatures, you can use what the artists call "forced perspective"—that is, have the part of the miniature closest to the lens built to a slightly larger scale than the more distant part. This, if properly coordinated, can add a surprising illusion of depth.

Of course the lighting of the miniature must be carefully matched to that of the real part of the scene. Otherwise—to cite an obviously extreme example—you might get a shot in which the sun shone from the left on the lower half of the scene, and from the right in the upper part!

Ten or fifteen years ago an ingenious European cinematographer devised a process which, while a modification of the two methods just outlined, had vastly greater possibilities. This was the Schuefftan process, named after its inventor, cinematographer Eugen Schuefftan. Unfortunately, it has never been used to any extent in this country, as it appeared just as other and more flexible processes such as the Dunning Process and the projected background process came into use. It is distinctly intricate, but it offers possibilities that could certainly be put to good use by the painstaking filmer of amateur scenario films. I'd hate to recommend it unreservedly to commercial 16mm. filmers, for while it is workable, I'm not at all sure how it stands as a presumably patented system.

In a nutshell, here's how it works. The actors work in front of a small set—just big enough to furnish the minimum essential background for their ac-

tual movements. This set is placed as usual, directly in front of the camera. Also in front of the camera, and comparatively close to the lens, is placed a reflecting surface—a partially-silvered mirror or an intricate system of prisms—with the reflecting surface at a 45-degree angle to the lens' axis. At right angles to the camera's main lens-axis, and at the proper distance, is a painting, a photograph or a miniature set, the reflected image of which, blended with the small actual set, completes the scene.

In its simplest form, this system can make use of a front-surface mirror;

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that is, one in which the silver reflecting surface is deposited on the *front* of the glass support, rather than on the back. Most glass or mirror shops can make these up. That front surface must be protected, by the way, as it's delicate.

With this mirror in place, the silver is carefully scraped from the glass over an area of precisely the right size and shape to permit the real, full-size set and actors to be viewed by the lens. The photo, miniature or painting which is to complete the shot is then positioned, over at the side, at right angles to the lens, in such a position that its reflection and the real set blend into a single image.

This way, you can get an apparently spectacular set—say a huge interior of a castle, or the like—on the screen, while all you have to build in full-size construction is, say, a small back-wall, a door, or the like, just big enough so your actors have a little room to move about in. Naturally, you can have this real set of any size and shape you want, even masking off unwanted parts of a real room or building by simply leaving the silvering of the mirror where it will conceal that part, and reflect into the lens something entirely different, though blended with that part of the real scene you photograph.

Several words of warning are necessary to anyone who tries any of these tricks. First of all, remember you can't pan, tilt or dolly your camera in one of these shots. Each set-up is good for only *one* camera-angle. Usually, it's the long-shot. If you come closer, for medium-shots or close-ups, you'll either have to make a completely new glass-shot, miniature or Schuefftan set-up, or plan your action and camera-angles so that your real background will be sufficient, and not reveal that the previous shot was a trick. However, that isn't much of a handicap. If, for example, you're putting a ceiling on a room, or Schuefftan-processing a big room around your actors, once you've established the spec-

tacular setting in a long-shot, your audience's imagination will put it there, even if in the closer angles it only sees a simple, plain back-wall.

Secondly, your camera must be absolutely steady on its tripod, and have as steady a film-motion as possible. Otherwise, you may have the nearer painting or miniature visibly weaving, while the actually more distant "real" part of the set stands steady!

Finally, doing these tricks and doing them at all convincingly takes genuine skill and precision. You can't get away with crude painting or a crude miniature, even though superabundant detail may not be desirable. And the perspective of the "artificial" part of the shot must be accurate, or the composite scene on the screen will look phoney. And the alignment of real action, artificial addition, and camera must be precise to the Nth degree, or again, your shot will be so "fakey" you might better not try it.

All of these methods have been used many times in professional filming, sometimes even with cameras hardly better than today's best substandard outfits. With precision and skill there's no reason why they can't be used in 16mm. and 8mm., in either black-and-white or color. But—don't expect success the first try! It takes patient, painstaking work to do any camera-trick, and do it convincingly. And these call for really exacting work. But, properly done, they can add immeasurable "production value" to amateur scenario and documentary films. END.

Normal Exposures

(Continued from Page 382)

test scene in color comes out as three contrasty black-and-white images in the earlier stages of color-film processing.

The practical limits of error with a contrasty film are about plus or minus half a stop: if exposure varies outside these limits the image will be sufficiently affected for the change to be seen clearly

ly on the screen. With a soft film, it may sometimes be possible to extend these limits to plus or minus one stop, but as a rule such a change would affect the image gradation even if the change in brightness failed to attract attention. In color films, smaller limits of error are required on account of color-balance: changes outside plus or minus a quarter of a stop may be quite clearly obvious on the screen in certain types of subjects.

In quoting these limits of error, it is necessary to point out that they are based on a critical appreciation of screen brightness, and that those who set themselves lower ideals than perfection may find it permissible to make greater mistakes. It is also important to bear in mind that mass-produced exposure meters cannot be expected to show no errors whatever from perfection, particularly where double-range instruments are in question. If anomalous results are obtained which cannot be explained in other ways, it is consequently worth while having the meter checked for response, although out of several hundred meters which have been through the writer's hands in the last few years only two have been found to be seriously incorrect in this respect.

Although the above instructions can be used for the production of standard quality images, and can be applied without further ado for all normal work, there are times when some other type of image is required for special purposes. Such special-effects, as they may conveniently be called, are produced either by varying the image contrast, or by varying the screen brightness from the level which has been set up as a standard. Scenes in haunted houses, for example, are usually shot with extremely high contrast, so that much of the scene is so much under-exposed as to be black, while the main subject has more or less standard screen brightness: night scenes filmed by day are merely produced by reducing the normal screen brightness to a much lower level and overcorrecting the sky.

Contrast is usually a matter, in such effects, of careful lighting, for artificial light offers infinitely greater possibilities than daylight, and will be considered shortly, but screen brightness levels have already been examined by making a speed test to establish the normal standard image, and a run through the speed test will show just what effect varying exposure-levels have on the screen brightness of standard objects. It is thus a simple matter to put down on paper the number of stops more or less exposure in the camera are needed to produce a particular type of screen brightness, and these variations from normal can always be used to obtain a pre-determined result on the screen.

So long as the standard exposure for matched face-tones is used as a basis for this variation in screen brightness, the results on the screen will be both consistent and reliable, but they are quite

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unreliable when based on the readings of an ordinary photoelectric exposure meter, since the latter gives readings which vary with the character and contrast of the subject. Those who take their hobby seriously will also be well advised to make speed test films with their favorite filters—a few frames for each exposure-level is ample, and there is no need to waste five feet of film every time. The facts obtained from these tests can be noted down and after this literally any type of image can be reproduced to order.

In applying these factors of so many stops under or over-exposure, it is naturally important to have some sense of the standard image which a normal reading produces, but some experience of the film stock used will soon provide an adequate guide for this. The fact is that so long as a standard exposure is wanted for a standard image-quality, the rules given earlier can be applied mechanically, but that as soon as it is necessary to deviate from this standard, human judgment—based, admittedly, on observed facts in the speed test—must be applied to the problem.

The speed test film, moreover, can be used for another very important purpose. In any sunlit scene, it is possible to take one reading on the sun and one on the sky, the sun not being allowed to fall on the artificial high-light when taking the latter reading. The result will be the difference in exposure required to produce matched face tones in the sun and in the shade, so that the number of stop divisions difference between the two is clearly a measure of the contrast in the lighting.

This is itself a convenient point where there is some doubt as to whether the shadows are sufficiently well lit to record properly, and we can go about establishing the fact in the following manner. If the sun reading is being used as a basis for camera exposure, and the shade reading is two stops less than that for the sun, we can refer to the lighting contrast as having a value of two stops (which means—since every stop division doubles the exposure given—that the light from the sun is four times as intense as that from the sky). While this value for lighting contrast makes it possible to ascertain whether two scenes are likely to give more or less the same contrast on the screen, the estimation of shadow detail is just as important an advantage.

On looking through the speed test, one finds that at a certain degree of underexposure (preferably judged here by a shot taken in the shade, so that lighting contrast does not make the judgment difficult) the face tones do not show full detail. This may, perhaps, be at three stops underexposure. Now, the shadows of a face in a sunlit scene are only illuminated by the sky, and if we use the sun reading as a basis for exposure, it is simple to find from the shade reading just what the shadow tones of the face are going to look like. If the shade read-

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ing is 3 stops lower than the sun reading, the shadow tones of the face are going to be given just the same exposure as that found in the speed test shot with three stops less exposure than our chosen standard, and it is perfectly simple to find a limit of lighting contrast beyond which the film cannot be expected to reproduce both sunlit and shadow sides of the face at the same time. **END.**

Home Movie Previews

(Continued from Page 383)

should give a mistaken-identity explanation for the Indian girl's final murder of the villain—which, if it is intended, is not too clearly established. If this motivation is not intended, it would be better to follow the practice that was so useful in the old silent-picture westerns, and have the hero in an easily-identifiable shirt—say a light color—and the villain in an equally distinctive one, say in a dark shade. This would be particularly useful in making clear who is hitting who in the fight scene.

It would seem to us also that it would have been dramatically better if the villain had not seen the Indian girl immediately after he felled and robbed the hero. It could easily have been established that she saw his action, but he did not see her. Likewise, after characterizing the hero as an ardent, faithful husband, his display of affection for this Indian maid is a bit out of character. Similarly, fading out in the middle of the wife's battle for her virtue with the villain leaves certain obvious doubts in the audience's mind which are never dispelled.

The musical score for this picture is excellent in every way, especially in the

way both score and cutting are handled for thematic effect. The music definitely adds to the film's dramatic value; but even without it, "A Tale of the North" stands out as a very much better than average scenario production. **END.**

Showcase

(Continued from Page 386)

secured with the special infra-red flash reflectors that several of the equipment manufacturers have designed in collaboration with Wabash, and which are now being made available.

A peculiar characteristic of infra-red film is off-focus. Pictures will not be in needle-sharp focus unless a slight focusing correction is made to compensate for the type of lens used, because the infra-red rays focus on a slightly different plane than visible light rays. The peculiar effects invisible light produce are extremely interesting. Dark lipstick, for instance, comes out almost pure white. Invisible veins lying under the skin show up with startling contrast. Old stains in clothing, even though dry-cleaned, show up clear in the picture as though they had never been removed. A clean-shaven man appears slightly unshaven, and many other odd effects will show up under various conditions with this type of photography.

The new lamp will be identified as Wabash Superflash Blackout bulb, will list at 60c, and will be commercially available the latter part of August. Complete details can be had by writing Wabash Photolamp Corp., Brooklyn, N. Y.

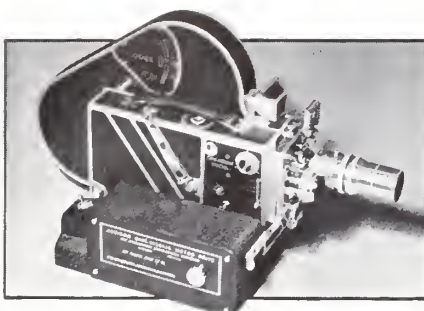
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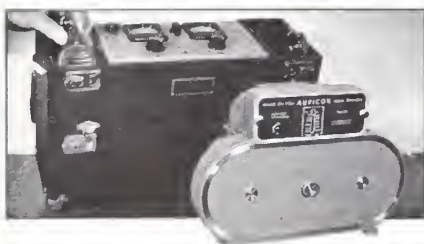
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Filmo Reels Climate-proofed

Anyone who has had the experience of having the moist and often corrosive atmosphere of coastal or tropical regions rust and ruin film reels will be interested in the results of a rigid test just given to Bell & Howell steel reels. For more than 4½ days, according to Bell & Howell research reports, a standard 1600-foot Bell & Howell steel reel was continuously drenched with a salt spray bath. At the end of that time, B&H reports, the reel was found to be in excellent condition. The original lustre was slightly dulled, but the finish was not basically affected; there was no peeling, chipping or cracking, and no chance for corrosion or rust.

Bell & Howell states that this test gave conclusive proof of the rust-resisting properties of the Bonderizing process and of the fine lacquer finish applied to all the firm's steel reels, from the 200-foot and 400-foot 8mm. reels to the big 2,000-foot 16mm. reels.

Crown Cable Flash Synchronizer

A radically new type of flash synchronizer has been introduced by the Crown Instrument Corp., 92 Liberty St., New York. Combining manual and mechanical operation, the device consists of a standard cable-release of metal construction, with the synchronizing unit permanently built into the portion normally held in the hand. It is in all respects a normal cable-release, but becomes a flashbulb synchronizer when electrically connected to any type of battery-case and reflector. The device weighs less than 1 ounce, and can be used with any camera which can use a cable-release. The timing element is fixed in that it has been pre-set to accommodate present-day flashbulbs all of which have approximately the same initial lag. Differences of adjustment are stated to be easily made by a quick adjustment of plunger-length to the particular shutter involved. A special stroke-control element adjusts the synchronizer to the characteristics of the individual shutter so that the stroke delivered is just enough to operate the shutter—no more and no less—regardless of the force exerted on the plunger.

G-E Booklet on Child Pictures

General Electric has just published an interesting little brochure, "Tips on Better Child Pictures," containing suggestions by Ruth Alexander Nichols, famous child-picture specialist. While the booklet deals primarily with stills, many of the technical and psychological points brought out by Mrs. Nichols can be applied equally well to movies. The booklet

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An improved version of the well-known Seemann splicer is announced by the Wholesale Photo Supply Co., of Hollywood and San Francisco, successors to Seemann's, Inc. Among the features may be mentioned tension-pins which hold the film taut, assuring accurate alignment of splices; a single-operation pressure-bar for fast splicing; a dry scraper, and register-pins accept 8mm. film regardless of how it comes off the reel, eliminating the necessity of reversing or turning over the film when splicing. The unit retails for \$3.95.

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W. W. Early, RCA Victor Manager of Recording and Record Sales, announced the new disc, at the same time pointing to the fact that it is thinner and lighter than the aluminum-core blank, and is being sold at one-half the price of the old type.

"The new blank provides a quality of reproduction that is unsurpassed by any other paper-core blank, no matter of what size," Mr. Early said. "Many months of research preceded the perfection of the special type of paper used in the core. The result is an amazing flexibility which prevents warping and allows the disc to flatten out at the mere pressure of the cutting head."

The new 16-inch blank joins the smaller sized paper-core blanks previously announced by RCA Victor, and widely used in studio and home recording.

The disc itself is slow-burning because of the paper core, and the shavings will not support combustion. With no fire hazard involved, the shavings can be thrown into any rubbish can. Its cutting surface permanency is assured.



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From the American Bolex Co. comes the report of improvements in their Cinea film-cement and its packaging. It is stated to be odorless, slow to evaporate when the cork is off the bottle, and to be highly efficient in joining all types of film—acetate and nitrate—35mm., 16mm., and 8mm.

An interesting feature is the new-type glass container. It is in the shape of a pyramid, stated to be a distinct improvement over the old-style bottle because it cannot, so it is stated, roll or tip over and spill its contents. Another improvement is the replacement of the usual brush with a glass applicator built into the plastic cork. This is said to assure an even spread of cement on the film surface. For further details inquire at your dealer or write the American Bolex Co., Inc., 155 East 44th St., New York.

No Sound Royalties On Army Training Films

Both Electrical Research Products, Inc., (ERPI) and RCA have waived all sound-recording royalty charges on the Army Training Films being produced by the Academy Research Council for the War Department. Thus the sound companies become participants in the non-profit Training Film production program on the same basis as the participating studios. The elimination of these royalty charges will result in a considerable saving in the cost of these films to the government, and materially increases the motion picture industry's contribution to the National Defense.

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Movie Clubs

(Continued from Page 384)

its annual Banquet and Election of Officers at the Club's June meeting. Officers for the Club's 1941-1942 season which begins with the September meeting were Ray O. Schmidt, Davenport, Ia., President; Dr. Paul A. White, Davenport, Vice-President; Miss Georgia T. First, Rock Island, Ill., Secretary-Treasurer; Harold Hainline, Bettendorf, Ia., Trustee. In spite of a rainy night, there was a turnout of 67, and 5 new members joined the Club, which is now beginning its fourth year.

The following winners of the Club's Second Annual Contest were announced: 8mm. Division: 1st Prize, "Musical Hands of 1941," by W. O. Lathrop, Davenport; 2nd, "Magic Carpet," by Tom Griberg, Moline; 3rd, "Indian Pow-wow," by Harold Swanson, Moline. 16mm. Division: 1st Prize, "One Snow Makes A Winter," by Dr. Paul A. White, Davenport; 2nd Prize, "Spring," by Miss Georgia First, Rock Island.

Highlight of the evening was a special showing of the prize-winning films of the L. A. 8mm. Club's recent uncut film contest, loaned through the courtesy of the Los Angeles 8mm. Club and the Editor of THE AMERICAN CINEMATOGRAPHER. These four uncut 50-footers were unquestionably the hit of the evening, and were pronounced the nearest to professional the Club had ever seen.

ALBERT N. MUELLER,
1940-41 President.

8 and 16 for Philly

The June meeting of the Philadelphia Cinema Club was held at the Hotel Adelphia on the 10th. The meeting was very interesting, and films were shown by the following members:

In the 8-millimeter size, W. E. Chambers, W. I. Brunner, H. Egger and E. J. Horner; and in the 16-millimeter size, C. M. Booth, H. L. Tindall, W. E. Moore and W. W. Chambers.

The results of the movie quiz shown at the May Meeting were announced by Carl Finger, and it is of interest to note how many of the members picked out the exact fault. Some of the answers were amusing.

After a very pleasant evening, the Cinema Club adjourned for the summer until the second Tuesday in September. B. N. LEVENE, President.

"Gadget Nite" For L. A. 8mm

The July meeting of the Los Angeles 8mm. Club was featured as "Gadget Night," with the members all requested to bring and show their latest movie-making gadgets, under the nominal sponsorship of the Technical Committee. In the absence of Secretary Betty Barney, Ronnie Sinclair was appointed Secretary pro-tem, and Ted McMurray, Vice-President and Chairman pro-tem. Earl Janda was announced as a new member of the Club's Technical Com-

mittee, succeeding Harold Remier. Former Secretary Volney Burdick was announced (and congratulated) as a very new papa.

Shut-in Committee-members A. W. Apel and J. N. Elliott reported that their Committee had carried out two showings during June, one at the Clara Barton Home and the other at the Los Angeles Orphans' Home, with another scheduled for July at the Hollenbeck Home.

President A. J. Zeman initiated what promises to be an entertaining new Club project, requesting each of the members to submit 3 or 4 feet of film (either color or black-and-white) showing the member around his or her home, or performing some familiar action, together with a short "name" title. When these shots have been collected, Zeman promises, they will be edited into a 400-foot reel to be shown at the Club's Annual Banquet.

The Technical Committee then took over and gave the floor to the gadgeteers among the membership. Harold McEvers exhibited a diaphragm control; Irwin Dietze, ten miscellaneous accessories; Charles Moore, a parallax compensator for Bell & Howell 8; F. J. Kirchner, a portable editing-rack; Gaetano Faillace, his combined projector and film case; Paul Cramer, five practical accessories which were by popular vote adjudged the best gadgets, and won the door-prize, a roll of Kodachrome film; A. J. Zeman, a titler; and Bill Millar closed the gadget session with a display of humorous yet practical gadgets, including a beach umbrella of huge dimensions, to be used, professionally, as a lens-shade.

The evening was closed with several films. Exhibitors included Charles Moore, K. J. Crawford, and Ronnie Sinclair.

RONALD SINCLAIR,
Secretary Pro-tem.

New Kodachrome Data Book

A new 1942 edition of Eastman's valuable little Kodachrome Data Book has just been published, and is available from all Eastman Kodak dealers at the price of 25c. Containing the latest and most authentic data on Kodachrome for both stills and movies, and generously illustrated in black-and-white and color, the booklet is well worth a place in any photographer's reference file. Among the topics covered are: Daylight Pictures; Exposure Meters; Lighting Arrangements; Special Subjects; Projection Data (for both stills and movies); making of black-and-white and color duplicates; How the Kodachrome Process Works; and specifications of the various Kodachrome film-types.

Home-Recording Hints

Due to the soft surface-coating of the acetate transcription or home-recording discs used by many amateurs for adding sound to home movies, these records must be given specially careful handling. The following hints will add greatly to the life of home-recorded discs. Always play them with a pick-up arm counterbalanced so that the weight on the needle is less than two ounces. Always use "shadowgraphed" transcription-type needles. Always handle acetate discs by the edges.

Some idea of the damage that can be done to a soft acetate disc by attempting to play it with the average, somewhat heavier pick-up may be gained from the following facts. The average 78 r.p.m. 12-inch commercial photograph record contains about 500 feet of sound-track. The needle-point has a diameter of .003 inch, and the average pick-up weight on the needle's point is 5 ounces. This weight, concentrated on the needle's microscopic point, gives a pressure equivalent to 20 tons per square inch!

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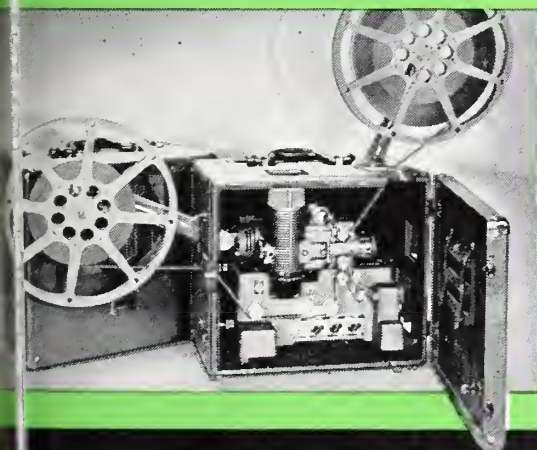
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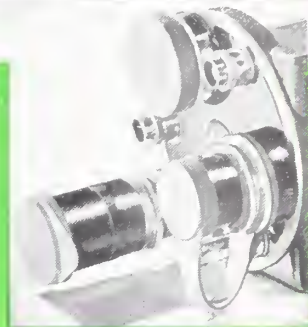


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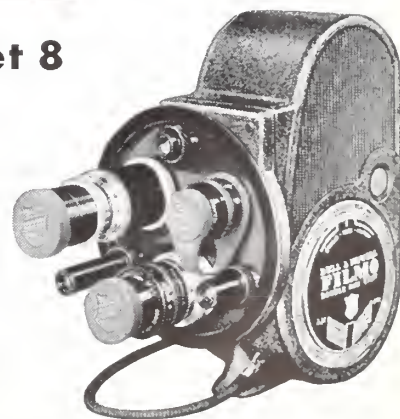
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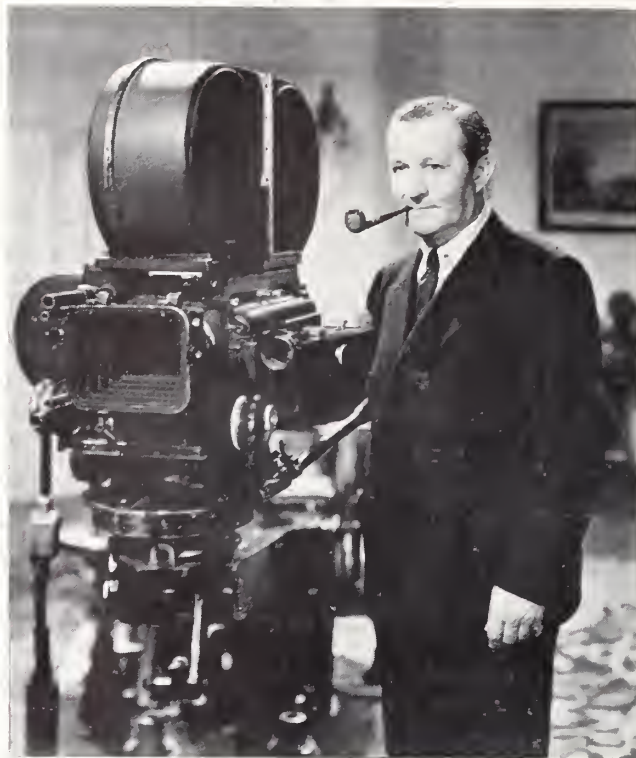
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THE MOTION PICTURE CAMERA MAGAZINE

VOL. 22

SEPTEMBER, 1941

NO. 9

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The Front Cover

Still-man Bob Coburn snapped this month's cover still on one of Hollywood's hottest July days, while filming a winter scene for Alexander Korda's "Lydia." Believe it or not, that's real snow, made by grinding half a million pounds of ice in special snow-machines. Note also the wind-machine and wave-machine at left for creating stormy weather. If you look closely, you'll see Director of Photography and Associate Producer Lee Garmes' face just beneath the tripod, as he discusses the shot with Director Julien Duvivier and the Script Girl.

Meet the Winners!



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Enlarging 16mm Kodachrome To 35mm Technicolor!

By WILLIAM STULL, A.S.C.

SIXTEEN millimeter has grown up—literally. For months there have been rumors of experiments in enlarging 16mm. Kodachrome to 35mm. Technicolor. Today, those rumors are confirmed. The experiments have borne fruit: 35mm. Technicolor prints from 16mm. Kodachrome originals are a commercially-available reality. Even as this is being written, 35mm. Technicolor release-prints are being made of the first short-subject filmed in 16mm. Kodachrome by a major studio for theatrical release!

Judged by results screened for this writer, there can be no doubt that we stand at the threshold of a revolutionary change in the making of industrial and documentary films and at least some types of theatrical short-subjects. For the results are astonishing: the enlarged print retains the many desirable optical qualities inherent to 16mm., and offers possibilities of convenience and economy in filming beyond anything possible in 35mm.

The first step in making the "blow-up" is the making of three selectively-filtered 35mm. color-separation negatives. This is of course done optically, with one negative filtered to form the red record, a second filtered to form the blue record, and the third to form the green record.

Then in Technicolor's printing-process, matrices are made from each of the three negatives—raised-gelatin relief images from which the appropriate dyes are transferred in somewhat the fashion of a rubber stamp to the positive film which comprises the final print. In this operation the red-record matrix prints the cyan (blue) image; the green matrix, magenta; and the blue matrix, yellow. This printing method is, of course, identical with that used in making Technicolor prints from any conventional 35mm. Technicolor negatives.

Throughout these processes, a very considerable amount of control is possible, so that in some instances, at least, compensation can be made to correct minor shortcomings in the contrast and color-balance of the 16mm. original. In the printing and development of the enlarged separation-negatives, a considerable degree of control of contrast is possible. In the same way, in the making of the final print, a considerable control of color-balance and density is possible, resulting in a quality quite superior to the writer's expectations. Such control is something heretofore unknown, though greatly needed, in the 16mm. commercial Kodachrome field.

The tonal range and gradation of the Technicolor enlargements screened for the writer were a revelation. There was

less of the appearance of a dupe than he had considered possible. While no direct comparisons were available, tonal range and gradation in these Technicolor enlargements seemed to compare well with both direct 35mm. Technicolor and 16mm. Kodachrome. Tests on color charts showed very excellent rendition of both saturated and pastel colors, while gray-scales were reproduced with uncommon fidelity, with excellent blacks and uncommonly clear whites. Flesh-tones were particularly pleasing. While not on a par with the best possible in major-studio 35mm. Technicolor, the flesh rendition is definitely the best we've seen in any Kodachrome enlargements, and much cleaner than is general in even the best 16mm. Kodachrome dupes.

The optical quality of these enlargements proved another pleasant surprise. The perspective and depth of field given by the 25mm. lenses customarily used for 16mm. are of course retained in the enlargement, and the result, from 35mm. and on a large screen, seemed almost uncanny. There was depth there that could not be approached in any 35mm. without risking the often distorting perspective of a wide-angle lens. What can be done with an enlargement made from a 16mm. Kodachrome photographed through the normal substandard wide-angle objectives—20mm. and 15mm.—should be a revelation on the screen.

The steadiness shown in all of the enlarged prints is another amazing thing. We are accustomed to look upon steadiness as something more or less exclusive to 35mm. film and professional equipment: but these enlargements, by whatever process made, prove that 16mm. Kodachrome, filmed in a properly-handled, high-grade 16mm. camera such as the Cine-Kodak Special, is certainly steady enough for most professional purposes. Frankly, we've seen less steady films made in 35mm. with some of our best professional cameras.

The excellent definition possible in these enlargements explodes another fallacy. Theoretically, it would be expected that definition must naturally suffer through the various duping, enlarging and reprinting processes involved in making these 16mm.-to-35mm. enlargements. But this does not seem to be the case. Where the original 16mm. Kodachrome is adequately defined, the definition of the enlarged print appears to remain entirely satisfactory. As a matter of fact, seeing some of these enlarged prints projected on a screen more than twelve feet wide, we would be inclined to say the definition was at least equal to that which would be obtained projecting the original 16mm. to similar dimensions. In some instances, the definition appeared even to surpass that expectable in the original.

Grain-size in the enlarged Kodachrome-Technicolor 35mm. color-print is another pleasurable surprise. In conventional black-and-white practice we have been accustomed to think of greatly exagger-

ated graininess as an inevitable concomitant of enlarging 16mm. to 35mm. Thus while enlargements from 16mm. black-and-white originals made on either reversal or 16mm. negative film have at times been made in the case of exceptional newsreel subjects, the fact that the enlarged print retained and magnified the grain-structure of the original 16mm. black-and-white silver image restricted the use of 16mm.-to-35mm. enlargements to strictly emergency subjects in which the news value of subject or action outweighed considerations of photographic quality.

But in working from a Kodachrome original, this is not the case. Grain-size, for all practical purposes, simply does not enter into consideration. The original 16mm. Kodachrome is virtually grainless, for the image is formed, not of an aggregation of minute silver particles, but of virtually homogeneous deposits of chemical dyes. Therefore, there is literally no grain to be rephotographed and magnified in the enlarging process.

Therefore the results on the screen are as grainless as direct 35mm. Technicolor prints. The writer took pains to inspect some of these enlargements from a point within a few feet of the screen—far closer than is possible in any theatre or auditorium. No graininess was apparent, though from the same viewing distance even a fine-grain black-and-white 35mm. scene would become a mass of bewildering grain. It can safely be said that these enlarged color-prints will not appear grainy even from the front-row seats in a large theatre.

Proof of the lack of granularity in 35mm. enlargements from 16mm. Kodachrome may be found in recalling the scenes of the collapse of the Tacoma bridge released by the major newsreels last year. The greater part of this, the most sensational newsreel "story" of 1940, was captured by an amateur using 16mm. Kodachrome and enlarged to 35mm. black-and-white. It will be recalled that the photographic quality—and especially the grain-size—of these scenes compared excellently with the direct 35mm. scenes with which they were intercut.

Very obviously, the success or failure of a 35mm. color enlargement must rest with the quality of the 16mm. original from which it is made. Recognizing this, Technicolor sets forth suggestions to assist in obtaining the best possible quality in the original Kodachrome. The more closely these suggestions are followed, the more likelihood there is of obtaining superior finished results on the screen in the enlarged color print.

The original, first of all, must be photographed in a high-grade 16mm. camera in good mechanical condition and the lenses used must be the best obtainable, fully color-corrected.

While this seems almost self-evident to the serious 16mm. commercial filmer, it is a requirement which cannot be too

strongly stressed: a genuinely rigid tripod absolutely *must* be employed. With the possible exception of very fast follow-shots, hand-held 16mm. camera-work is so much too unsteady that it should not be enlarged under any circumstances.

The lighting should, generally speaking, be front or front cross light to avoid excessive contrast and to permit full color reproduction. Back-lightings and cross-lightings may be used only if they are handled as a 35mm. professional cinematographer would in filming Technicolor—using either reflectors or booster-lights to equalize the exposure-values between the highlight and shadow sides.

Unlike the exposure for 16mm.-to-16mm. Kodachrome duping, which should be on the full side, Technicolor prefers Kodachrome originals in which the exposure is just barely on the low side of normal. In this way, washed-out highlights are eliminated, while the enlarging and printing processes provide sufficient latitude to take care of the shadows and middle tones.

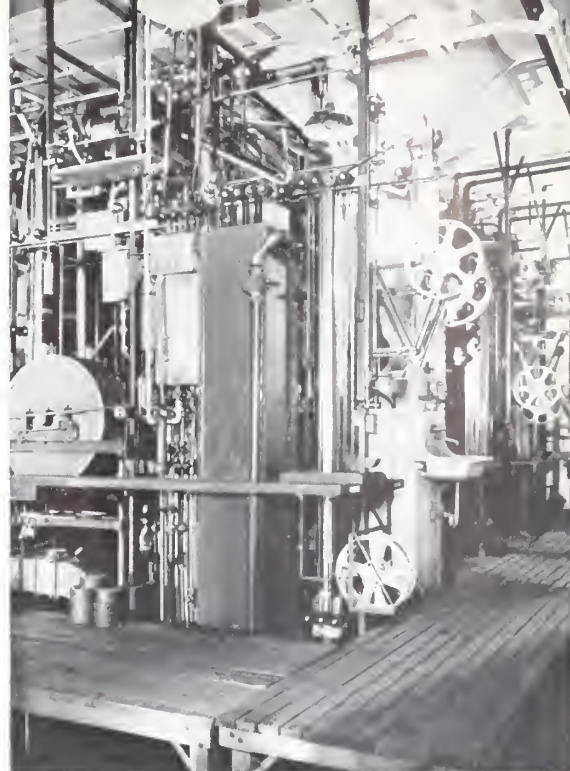
The 16mm. Kodachrome stock used in making the original 16mm. production should be all of one emulsion number. If the production combines both exterior and interior sequences, the "Type A" emulsion should be used throughout, with of course the necessary color-balancing filter (always the same individual filter) for the exteriors.

The original 16mm. Kodachrome should all be processed at the same time, to assure consistent contrast, density and color-balance.

Perhaps the most important requirement of all is that once the 16mm. film has been processed, it must be considered in every way as a negative. It should not be projected even once, for even a single passage through the best projector will cause abrasions which, while perhaps unnoticeable in ordinary 16mm. projection, will be enlarged and appallingly evident in the 35mm. print. The 16mm. Kodachrome processing laboratory should therefore be instructed not to project the film for inspection, as is usually done.

For editing purposes, a duplicate should immediately be made. This can be either a 16mm. Kodachrome dupe, a 16mm. black-and-white reversal dupe, or even a 35mm. black-and-white enlarged negative from which prints may be made as necessary. The original 16mm. Kodachrome should be stored in a clean negative cutting-room or vault—and the picture cut from this work-print.

When cutting of the work-print is completed, the original 16mm. Kodachrome is cut to match it. Since much of the dirt and abrasion usually found in 16mm. originals is found at the splices, this original should preferably be delivered to Technicolor in a long cut, with scenes cut approximately to length, but with several extra frames



On these special imbibition machines the dyes are transferred from the matrices to the final three-color Technicolor print.

on both sides of each splice. The enlarged negatives are then made from the original, and precision-cut to exact frames, the splicing being done in the Technicolor laboratory, by experienced, professional negative cutters using the finest of equipment.

In this connection it may be stated that edge-numbered 16mm. Kodachrome is now available to commercial producers, though it must be obtained in 10,000-foot orders. This of course simplifies the cutting of the original.

From start to finish, absolute cleanliness is a prime essential in everything connected with the 16mm. Kodachrome original. Dust, finger-marks and abrasions are magnified incredibly in the enlargement, especially when the enlarged print is projected on a theatre-size screen, so much larger than anything usually attempted in direct 16mm. projection.

While it is not included in the Technicolor requirements, it would seem to the writer that it might be a very logical precaution to have the 16mm. original lacquered by the process recently perfected by the Kodak Research Laboratories, even before the cutting print is made. This would tend to eliminate any traces of the handling the original must necessarily undergo in making the cutting-print and rough-cutting it to footage. If any abrasions, oil-spots, dirt or finger-marks should occur, they can usually be removed entirely by simply removing the lacquer coating before the enlarged separation-negatives are made.

Fades, lap-dissolves, wipes and optical transitions of all types can be put into the film as a part of the regular Techni-

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A Three-Dimensional Exposure-Meter For Professional Use

By WILSON LEAHY

TWO of Hollywood's leading experts in photoelectric light-measuring technique have joined forces to perfect the first light-meter designed solely to meet the specialized requirements of the professional cinematographer. Becoming acquainted through articles on exposure-metering which each had written for *THE AMERICAN CINEMATOGRAPHER*, Karl Freund, A.S.C., ace director of photography, and Capt. Donald W. Norwood, until his retirement an ace photographic expert of the U. S. Army Air Corps, found that Freund's experiences as a practical cinematogra-

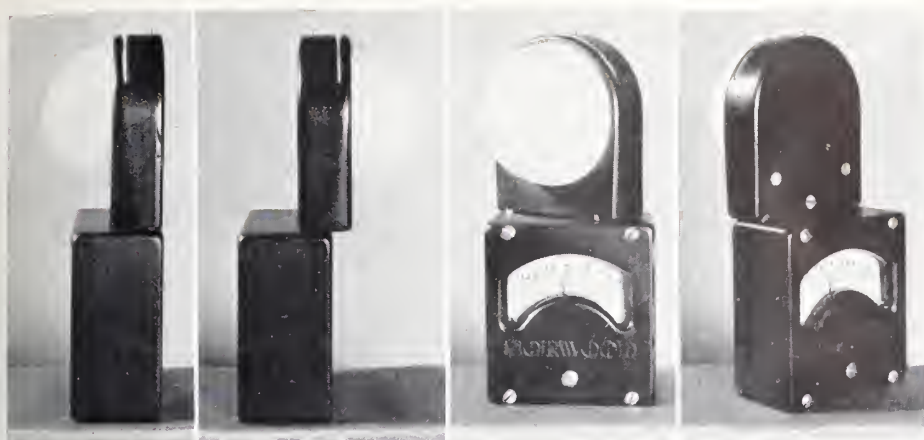
pher supplied the missing links Norwood needed to perfect his "prevailing illumination" type of exposure-meter for studio use. With the benefit of the intimate data concerning studio conditions which Freund was able to supply, Norwood has developed a radically different type of meter which has already proven itself on actual production.

Both of them recognized that the professional cinematographer's exposure-meter requirements are unique, and not met by any commercially-available instruments thus far. The conventional reflected-light meter made for

amateur use is useless to the professional, since with every factor under close control, the professional is not interested in either overall illumination per se, or in the reflective values of scene or set.

In the same way, the general practice of using a conventional meter for arbitrary incident-light readings on the key light is admittedly a makeshift. It gives a reading on a single light-source, but does not take into consideration the effects of such other inevitable angles of lighting as filler-light, cross-light, etc.

What the professional needs is an in-



The Norwood "Director" meter. Note hemisphere light-pickup, scale reading directly in f-stops, and manner in which photocell can be rotated to any angle. On opposite page, Karl Freund, A.S.C., is shown taking a reading with the Norwood meter preparatory to filming a scene for "The Chocolate Soldier." Note how meter's pickup duplicates lighting on Nelson Eddy's face.

strument which will measure with accuracy the light actually affecting the photographic rendition of the key factor in his scene—usually the face of the principal player. From this he can balance the rest of his lighting visually to produce the desired artistic result, creating shadows and highlights as may be desirable.

But to do this, it is necessary that the meter "see" the lighting on the subject as the camera does. If it "sees" the light without relation to the camera, its reading, while it may be technically accurate, will prove inaccurate photographically. This can easily be proved by taking two incident-light readings with a conventional meter on a subject, altering the angle but not the intensity of the key-light between the readings.

To cite an extreme example, a reading of this type may be taken with the key-light placed close to the camera, producing a front-lighted effect. The second reading may be taken in a cross-light, with the light-source at the same measured distance from the subject, but with the lamp moved through a 90-degree arc so that it now produces a cross-lighting. Conventional key-light measurements of these two set-ups would give identical readings. But practical photographers have for many years known it was necessary to double exposure—increasing it a full *f*-stop—for cross-lighting.

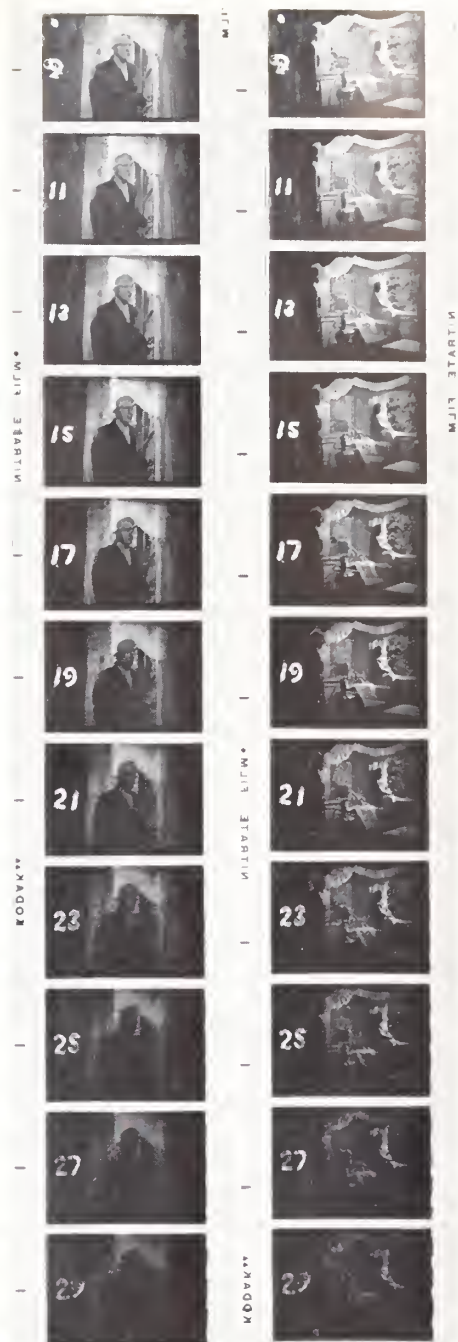
For this reason, Norwood has given his new meter a three-dimensional light-gathering surface, in the form of a hemisphere of ground celluloid placed over the meter's photocell "eye." When this hemisphere is placed in subject position and pointed directly at the camera's lens, the light falling on its three-dimensional surface reproduces exactly the lighting angles and relative intensities falling on the subject's face to affect exposure. In a flat front-light, it gives a high reading; in a cross-lighting of equal individual intensity, only half the hemisphere's surface is illuminated, while half is in shadow. Therefore the meter gives a proportionately lower reading, indicating approximately one *f*-stop more exposure is needed. If filler-light is used

on the shadow-side, this, too, is registered by the meter, and the proportionate exposure indicated.

This principle has been engineered by Norwood and Freund into a compact and practical meter known as the Norwood "Director" Meter, which is the first product to be produced by a newly-established organization for cinetech research, the Photo Research Corporation. The heart of the instrument is a standard Weston photronic cell to which a standard Weston microammeter is permanently connected. Over the photocell is the ground-celluloid hemisphere which gives the meter its three-dimensional pick-up. The photocell-housing is mounted rotatably on the case for convenience in operation, so that the light pick-up can be swung through a 180-degree arc to right or left with reference to the case and indicating dial, permitting readings to be made with assurance that the operator's body is not shadowing any photographically effective light from the photocell.

The indicating dial reads directly in *f*-stops at the standard studio cine-camera exposure-speed of 1/50th second. Compensation for different film-speeds is made by means of perforated metal masks which are slid into place directly over the photocell. These are precision-matched to the individual meter, and are calibrated in terms of the familiar Weston film-speed ratings. These masks are further matched to coordinate with the individual processing conditions of the studio or film-laboratory where the user's film is to be processed.

For the present, at least, these meters are to be sold only to professional cinematographers. And this makes practical a unique policy. The purchaser of each meter is given an opportunity to use his instrument in making practical photographic tests, under actual studio conditions. A test stage is provided by the firm, complete with sets, camera equipment, and the latest Mole-Richardson lighting units. The purchaser of the meter is required to make tests, using these facilities and with his test-film developed to the same standards as those employed by the studio or laboratory handling his regular work, until he not



Light-tests of both ends of an effect-lighted dolly-shot, exposed with the new meter. Note uniformity of exposure throughout, and that even though an effect-lighting, the scene will print far down on the scale.

only is familiar with using his meter, but has gained absolute confidence in it.

"This," says Freund, "is a most important factor in using the Norwood 'Director' Meter. He has made it, I am confident, the most accurate and dependable meter ever built for professional use. But unless the man who uses it has sufficient confidence to rely on it absolutely, it would be much better that he did not use it at all.

"Let me illustrate this. After Captain Norwood had worked out the first experimental models of this meter, we subjected them not only to the most searching laboratory tests, but to practical photographic tests of every description, using all types of film, including

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WHAT SHOULD TESTS SHOW?

By LESTER WHITE, A. S. C.

IT happens all too often in every studio . . . production is well under way, but everything is thrown suddenly out of gear as the rushes show that some person, costume, set or prop doesn't photograph as it should. Sometimes it means costly delays as a set is repainted or rebuilt, a costume re-made, a make-up or coiffure revised. Almost always it means ruffled tempers as producer, director, cinematographer and everyone else concerned asks "WHY?"

That person or object has almost certainly been subjected to extensive photographic tests. And those tests had showed up successful on the screen. The various executives, technicians and others whose duty it was to screen and pass on them had approved the person or object tested as wholly satisfactory for its part in the production. And still, perhaps in the expensive middle of production, we find things aren't right—that there must be delays and changes—probably re-takes—before things can continue satisfactorily. No wonder everyone asks "WHY?" and points an accusing finger at the people on the set who can't apparently make that person or object appear as advantageously as in the test. And they usually speak highly of the cinematographer who made that test that was so good.

But to my mind, the shoe can very often be on the other foot in a case like this. The people who made the test did

their work not merely well, but *too* well, for they made it under conditions which couldn't always be duplicated in actual production. They had, I think, the wrong conception of the test, in that they aimed for the maximum possible with that person or costume, rather than for the minimum that would be possible under the worst conditions of actual production.

Suppose, for instance, we're testing a player for an important feminine part. The natural instinct would be to give that test the very best photography of which you're capable—to present that girl in glamorizing close-ups and long-shots that enhance every bit of her natural beauty and charm.

Of course it's necessary to include some shots of this nature in any test. But to my mind, if the test is composed exclusively of them, it will be doing an injustice to the player, the cinematographer, the studio—and to the test itself. It leaves too much unanswered!

You've proved that the girl can be made to look lovely on the screen—in a shot where everything played into the photographer's hands; where movement of both subject and camera was minimized. You've proved, perhaps, that you can make her look attractive as she sits still and presents first a full-face angle to the camera, then the right profile, then the left, or perhaps walks slowly toward or from the camera.

So what?

Sooner or later you—or some other cinematographer—will have to face the problem of photographing her in action on the set. She'll be moving around—perhaps violently. Often your camera will be moving, too, on dolly or boom. Your lamp-placement may at times be restricted by camera-movement or the need of eliminating microphone-shadows. Can you still make her look as well then as she did in the test?

Maybe in your test you used a heavy—and glamorizing—diffusion. You can do this in close-ups in production: but how about the longer shots where you can't use so much diffusion? How is she going to look then?

Unless the test takes consideration of these inevitable factors, and shows the minimum that can be expected, as well as the maximum, it can't be called a really fair test!

Suppose you have a character-actor like Paul Muni, for example, playing a Mexican or a Chinese. A test of his make-up alone shows nothing but the already well-known fact that he can be made up to represent almost any type of character. But unless you and the test-director plan for it, it won't show how convincing that make-up will be in scenes where he is eventually to work with a genuine Mexican or a real Chinaman. Neither will it show how he will appear in scenes where he is to work closely with the other players—with Americans or Britishers, and with the leading lady. Maybe these are obvious considerations in tests of extreme character make-ups—but they're easily overlooked, none the less, in making "just a simple make-up test."

Costume tests can hold just as many pitfalls. And it is not always or exclusively the costumes of the principals that can give you trouble, either. Only recently I had the task of testing some costumes for the chorus of a musical film. To put it bluntly, the designer had done his best to suggest the daringly revealing costumes of chorines without literally running afoul of censorship regulations. But photographic tests were necessary to prove whether or not the photographic rendition of the costume and its wearers would be too nearly similar, and perhaps give some sensitive-minded reviewers the impression that there was too little costume and too much girl revealed.

In the comparatively close shots of normal dramatic action, the cinematographer can do a great deal to control the way such a costume would appear on the screen. Definition and gradation are both at the maximum. Furthermore, discreetly-placed shadows can conceal doubtful points.

But in long-shots of a musical number, or dance routine, the situation is reversed. Definition and gradation are almost inevitably at their minimum. And with a set lit for the high-key effects usually desirable for such numbers, and both players and camera moving constantly, very little—if any—shadowing

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Are We Making the Most of Modern Resources?

By DANIEL B. CLARK, A.S.C.

Supervisor of Photography,
20th Century-Fox Studio

MOST of us find it very flattering to look back at "the old days" when we had only slow lenses, indifferent laboratory-work, and but a single type of negative film, and congratulate ourselves on the technical improvements of the last few years, which have given us so much better tools with which to work. We talk glibly about coated lenses, super-fast films, improved processing, and all the other recent technical improvements, and jump to the mistaken conclusion that not only are we pretty well off, but that we're very good.

And yet every so often we'll encounter something that jars us out of our self-satisfaction, and makes us wonder if, after all, we're really making the fullest use of today's resources. Sometimes we'll see a picture in which some other cinematographer has done something arrestingly different. Sometimes we'll find ourselves forced by circumstances to do things with materials and equipment we've taken for granted, but which we can't help feeling is just a bit impossible.

For example, it is almost four years since the first of today's super-fast emulsions, such as Super-XX and similar products, was introduced. It is almost two years since we first experimented with non-reflection coated lenses which give us objectives virtually one-half stop to one stop faster than non-treated lenses. For some time we have had cameras which, like the 20th Century-Fox camera with its 200-degree shutter, give us yet further increased exposure values. Our laboratory-methods are definitely capable of giving us results that would have been impossible only a few years ago.

We've utilized these developments, singly and in various combinations, as each individual or studio deemed best. But doesn't it seem possible that we may, in some instances, at least, have utilized them more in the way we thought they ought to be used than in ways their potentialities at least hinted they could be?

For instance, one suggestion the various makers of super-speed film advanced when they brought out these products was that now, when we needed for background or stock-shot purposes such scenes as a night ball-game or hockey match, a horse-show, or the like, we could go out with this new, ultra-sensitive material, and film it under its normal, practical lighting. But most of us—maybe from force of habit—when we had to film such scenes, would usually equip ourselves with several truck-loads of lights, a generator, and so on, and light the shot like a studio scene. When we couldn't for any reason, work under such conditions we'd usually pass it up or stage it expensively in the studio.

Recently, however, I was faced with an assignment like that. For possible use in a forthcoming picture, the studio wanted some backgrounds which could be shot at the Santa Barbara Horse Show. But pictures, to the show's management, were purely incidental to entertain-

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EASTMAN LL

KODAK

NITRATE FILM

N LL

KODAK

NITRATE FILM



Hardly a "B!" Phil Tannura, A.S.C., (right) films Fred Astaire and Rita Hayworth in Columbia's special, "You'll Never Get Rich."

EVERY so often someone comes along with an impassioned plea that we ought to have some means of making experimental films, with which we could experiment with new ideas, new personalities and new techniques in a way that can't always be done on regular production. It's a nice idea to toy with—and one I am sure even its strongest proponents must realize is, for the present, at least, thoroughly impractical.

Besides, it seems to me we already have what is to all intents and purposes a full-scale experimental laboratory, just waiting for our use! Of course I'm referring to the so-called "B-pictures," which every studio makes, whether they call them that or not. They're unpretentious little affairs, turned out cheaply and economically—to say nothing of being made quickly. Already we've seen plenty of top box-office stars, directors and writers graduate from this unnoticed training-ground.

But so far, very few cinematographers seem to have recognized that an assignment to direct the photography of a pro-

The Experimental "B's"

By PHIL TANNURA, A.S.C.

gram picture can be an opportunity to try out new technical ideas which, though they've been rolling around in the cinematographer's mind for months, he would never dare to try out on a picture of major importance until he had had a chance to prove or disprove it in practice. But on a "B" picture, so long as the resulting scene is photographically adequate, the cinematographer has an opportunity to try out new ideas without running disproportionate risks for either himself or the producer.

Take such a thing as the use of coated lenses, for example. Some studios and some cinematographers have had opportunities to make extensive tests of them, and are using them enthusiastically. Others, after perhaps equally extensive tests, don't care for them. But I know of many other cinematographers who, having had the opportunity to make only very sketchy tests of such lenses, or perhaps none at all, have told me that while the lenses seemed to offer interesting possibilities, they none the less felt reluctant to use them on their next "A" production because they didn't want to take the risk.

But suppose at that point you're assigned to a "B" picture. If you try the lenses out on a sequence or two of that picture—perhaps even the whole production—you're not jeopardizing either a big investment or the appearance of an important star, for most of your cast will probably be young players on their way up—youngsters who can stand much less careful photographic treatment than the average established "name." On your part, you're learning what the lens can do and how to use it under the only conditions that really count—those of actual production. If you succeed, you've found something valuable; if the experiment isn't so successful, you're still likely to be ahead, for you've been concentrating on your camera-technique rather than "walking through" the assignment, and the producer is likely to get a picture better photographically than he expects.

Lately we've heard a good deal pro and con about the idea of using super-fast films like Super-XX on production. One of the men who first did it—a chap who is pretty much an "A-picture" specialist—has said that he used it on some four or five productions before he felt

satisfied that he had developed the right technique of handling it. Wouldn't it have been better all around if he could have done that experimental work on low-budget "B's," rather than on super-specials where his own reputation and a six or seven-figure investment were at stake? The results, scene for scene, would have been just as instructive—and he would probably have learned quicker, since he would have turned out more scenes, under more varied conditions, in the same amount of time.

Similarly, we've all of us lately discussed the so-called "pan-focus" technique Gregg Toland employed on "Citizen Kane." Gregg has admitted he developed it slowly, over a period of several years, using a bit of it here in one picture, another bit there, in another, as conditions warranted. And he himself admits, I believe, that the technique isn't by any means completely stabilized yet; there are still quite a few questions as to the how, when and where to use it that can only be stabilized by further experience. If this experimental work could be spread over an equal or greater number of program films, isn't it possible that the answer could be reached more quickly and economically?

In all of this, I certainly don't want it thought that in suggesting that the "B" picture can be used as a field for experiments, I am implying that the photography of these program releases is necessarily of a low order. Sometimes it may be, but not necessarily so, by any means. Very frankly, I have frequently seen (and photographed) "B" pictures in which I felt the camera-work was distinctly better than the same man was able to achieve in other more pretentious pictures. For there are times when, in making a high-budget picture, you may find that the setting or mood of the action aren't such as lend themselves to particularly pictorial effect. You may find a director who is not particularly inclined to cooperate with the photographer, or a star who requires a certain specialized and conservative type of camera-treatment.

On the other hand, in a program-picture assignment, you may very well find everything playing into your hands—interesting settings or locations, a story

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"The back-light goes here," says Leon Shamroy, A.S.C., to Maurice Liu, while Joan Bennett serves as a model in a set representing a London air-raid shelter.



FOR a long time Hollywood has prided itself on being able to reproduce in faithful set-design conditions which might be met with anywhere in the world.

But when Maurice Liu, Chancellor of the Los Angeles Chinese Consulate, decided to shoot a documentary film around the current heroic struggle of his people, he little guessed that on the 20th Century-Fox lot he would find conditions so nearly parallel to those he would face in photographing the catacomb industries deep in the rock beneath the streets of Chungking, China, that the studio sets could literally serve as a classroom where he could study, under the most expert tutelage, the photographic and lighting problems he would encounter in filming his picture in Free China's bombed capitol. But he did.

Luckily for Liu, his good friend Leon Shamroy, A.S.C., was preparing to start a picture called "Confirm or Deny" just at the moment when Liu had completed his plans for a photographic expedition to China. Liu had worked in both 16mm. and 35mm., and with both black-and-white and color, but he felt the magnitude of the job before him required that he do considerable brushing up on the latest methods in lighting and other photographic essentials. Turning to his friend Shamroy for this, he found not only instruction, but a "classroom" which provided almost the exact conditions under which he would labor in China.

"Confirm or Deny" deals with an American newsman's adventures in London in December, 1940, during the height of the bombkrieg, when an alleged abortive invasion attempt was made by the Nazis. While the Chinese architecture was missing, the sets by Richard Day and Wiard B. Ihnen gave Liu an otherwise perfect duplicate of the conditions he would face in Chungking—bombed buildings, crowded cellars and air-raid shelters, with all the complex lighting and camera-angling problems he could expect to face in actuality.

So for the first three weeks of the studio film's production, Liu spent nearly every day on the set, consulting with Shamroy and learning from him all the special techniques he would need to use in his homeland.

As if the hand of coincidence wasn't

Hollywood Trains

A Cinematographer For China

By RAY DANNENBAUM

strong enough already, there was an added advantage to Liu's study with Shamroy. Although Liu was born in Shanghai and has travelled extensively in China, this is his first photographic job there. Shamroy, on the other hand, knows China photographically from first-hand experience there, since in 1930 he covered not only the coastal ports, but most of the Chinese hinterland as well, serving as Chief Cinematographer for the Huntington Ethnographic Expedition.

On this trip, which is sponsored by the Chinese Nationalist Government, Liu is taking four motion picture cameras—a Bell and Howell Studio Camera, a 35mm. Eyemo, and two 16mm. Filmos. With him, in addition to such auxiliary equipment as the latest Hollywood-made portable floods and spotlights, Liu is taking 20,000 feet of 35mm. black-and-white film (Plus-X) and 10,000 feet of 16mm. Kodachrome. Stills will be shot with two Leicas, using both Kodachrome and Plus-X. And naturally after his period of schooling with Shamroy at 20th Century-Fox, Liu's choice of an exposure-meter was the General Electric which is the standard used at the studio.

Unlike most expeditions of this nature in times past, which made much of carrying portable processing equipment and processing film on the spot, Liu's exposed film will be processed in Hollywood, under Shamroy's direction. Test-strips of Plus-X will be developed on location as a control, just as any studio camera-unit would do. But film today can be relied on to withstand even the long journey from Chungking to Hollywood between exposure and development, so Liu's film will receive the benefit of being processed in one of the world's finest film laboratories in peaceful Hollywood.

Handling the Kodachrome presents a different problem. It must, of course, be processed in one of the Eastman Kodachrome processing-plants, either in Australia or in America. At the same time, due to the restricted latitude of color processes, some control is desirable. So it was decided that Liu will shoot frequent test-rolls of Kodachrome, and rush them to Hollywood via Chinese governmental planes and the trans-Pacific Clipper. As soon as the film has been

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IF you were a movie-goer during the years when Mary Pickford was "America's Sweetheart," you probably saw many a 24-sheet billboard advertising her films. And on these billboards, in addition to Miss Pickford's name, the title of the picture, and mention of the supporting cast, you'd see, in letters every bit as large and prominent as those naming the director, "Photographed by Charles Rosher." It wasn't, as it would be today, "Charles Rosher, A.S.C.," because at that time there simply *wasn't* any A.S.C. for Rosher or anybody else to belong to. He remedied that in 1919 when, with Victor Milner, Arthur Edeson, and a handful of other top-flight cinematographers, he founded what has since become the world's foremost cinematographic organization.

Mary Pickford's insistence on crediting and publicizing Rosher coequally with her director was another instance of that Pickford business sense which has become legendary in Hollywood. After all, when you strip all the glamor



Aces of the Camera

IX:

CHARLES ROSHER, A.S.C.

By WALTER BLANCHARD

and romanticized publicity away from it, a movie-star's fortune is literally wrapped up in the way she appears on the screen. And "Little Mary" safeguarded hers by entrusting it to Rosher who, then as now, was one of the industry's acknowledged masters of the intangible art of photographically glamorizing women. Directors and leading men might come and go, but for more than a dozen years—right up to her retirement—no one but Charlie Rosher could be trusted to photograph the First Lady of Hollywood.

More than a few other picture-wise stars have felt the same way about Rosher's skill: Joan Crawford, Constance Bennett, and plenty of others right up to such representative of America's 1941 sweethearts as Martha Scott and Priscilla Lane have insisted that Rosher photograph them.

And they've reason enough! Go to see any picture that has come from his camera: it may be a spectacularly pic-

torial job like "Sunrise" which, back in 1927 won for Rosher and Karl Struss, A.S.C., the very first Academy Award for photography, or like any of the many more recent releases which have pushed his name repeatedly among the Academy Award nominees and "preview poll" winners. Or it may be a strictly unpretentious programme-picture of the sort which offers the cinematographer little or no chance for personal distinction. But you'll have to look mighty closely before you see any player given even a second's unflattering photography!

For that's the way Rosher attacks a picture. "After all," he says, "there are pictures—and pictures. Sometimes things will play into the cinematographer's hands: the locale or period may be one that will give him spectacular settings and costumes; or the story may be such as to give him an opportunity for spectacular dramatic mood and effect lightings. In a case like that, the man at the

camera can hardly help turning in a spectacularly pictorial job of camera-work.

"But on the other hand, there are other pictures—not all of them, by any means, in the 'B' or programme classification—which inherently offer the cinematographer nothing pictorial. The setting may be prosaic or downright ugly; the action may be light comedy-drama in a mood which can only be given conventional, crisp, high-key treatment.

"But there are always the people! And they're the element the public buys its way into the theatre to see. So it stands to reason that we should concentrate our photographic efforts on them—on keeping them looking always as attractive as the public wants them to be.

"Both technically and psychologically, this is a challenge. You've got to know what is the right mental approach to the task of photographing each star just as much as you must know the right technical means to employ. And what's right with one star may be utterly wrong with another one who has a different temperamental make-up. That, I think, is one reason why a star, given a choice between two or three cinematographers of actually equal attainments, may insist on one certain man in preference to others.

"For example, you'll find some stars who approach their work from a technician's viewpoint. They know certain angles or actions are good, and that certain others make them photographically unattractive. They want you to tell them just what to do and what not to do—and on the set they give a fine performance even though all the time they're carefully avoiding doing those things you've warned against.

"On the other hand there are other players—every bit as capable—who just aren't made that way mentally. If

(Continued on Page 444)

A.S.C. on Parade

Joe Ruttenberg, A.S.C., admits having been a bit flustered lately. Seems his daughter got married and Papa Ruttenberg, faced with the duty of giving the bride away, was even more nervous than the bridal pair!

Congratulations to Lee Garmes, A.S.C., not only for the splendid job of camera-work done on Korda's "Lydia," but for the break he gave cinematographers in general by getting solo title-billing as "Director of Photography and Associate Producer." Incidentally, Lee's repeating in Technicolor with Korda's "Jungle Book," ably assisted by Duke Greene, A.S.C.

Farciot Edouart, A.S.C., his Technicolor transparency scenes for "Reap The Wild Wind" safely in the box, off to parts unknown for a well-earned vacation. Seems almost wrong, though: this year he got away without borrowing our pet exposure-meter as in years past to keep his Leica and 8mm. Kodachromes "on the nose"—! Seems after last year's holiday he broke down and bought himself a shiny new Weston "Master" like the one he borrowed from us.

A.S.C.-Prexy. Fred Jackman and the Missus back from their vacation, spent at Sun Valley, Glacier Park, and similar resorts north and east. And you should see the fat packet of Leica stills—good ones—they brought back! Seeing them, Fred, Jr., remarked "Gee, that camera sure takes good pictures!" Now Fred, Sr., has challenged Fred, Jr., to a duel with Brownies!

Another returning vacationer is Ernest Palmer, A.S.C., who also picked Glacier Park for his between-pictures rest.

There's a great concentration of high-powered photographic talent working on the Arnold Pressburger-United Artists' production "The Shanghai Gesture," what with Josef Von Sternberg, A.S.C., as director of production, and Paul Ivano, A.S.C., (just back from Argentina) as director of photography. It's a cinch to emerge one of the year's best-photographed productions!

Add "long arm of coincidence:" last month, getting THE AMERICAN CINEMATOGRAPHER to press, one of the last things we did was insert an item in "A.S.C. On Parade" telling about Robert Pittack, A.S.C., being busy on the first of Hal Roach's streamlined featurettes. Then we dashed out to Glendale to catch a preview—of Roach's "Tanks A Million," photographed by that same Bobby Pittack! As if that

wasn't enough, dropping in at the Tam O'Shanter for a snack afterwards, who should follow us in but Bob Pittack, A.S.C., George Clemens, A.S.C., and their two charming better halves, also intent on refreshments!

And while we're plugging Maestro Roach's streamliners, we might as well state that Pittack, (batting for Roach) and Al Gilks, A.S.C., (batting for Technicolor) have just wound up shooting Roach's Technicolored "Fiesta," grinding out an unbelievable number of scenes in 15 days' shooting. And good, too!

Lady Luck seems to be smiling on Ray Fernstrom, A.S.C., lately. He postcards from his post as Director of Photographic Art for Vancouver (B.C.) Motion Pictures, that he has no less than seven pictures currently on the screen—all in color. They include, "Sail Ho!", "It Happens on Rollers," and "Lions For Sale," for Warner Bros.; a Cinecolor short, "Beautiful British Columbia," appropriately for Columbia; and "Memories of Europe," a FitzPatrick travel-talk in Technicolor, to say nothing of four other Technicolor reels made for the same producer in Holland, Switzerland and Ireland which are still playing.

Last month we mentioned that Vern Walker, A.S.C., hooked a 300-pounder and lost it. Next time he went fishing, though, he got one almost as big—and landed it. Vern must have something of a reputation around RKO as a teller of tall fish-tales, though, 'cause when he landed this one he was so intent on furnishing proof he had his prize trucked to Hollywood and put it on display at the studio! Most folks would be satisfied to show a snapshot—but Vern couldn't: who'd believe a fish-picture made by a tricky chap like Vern, whose business is making the camera lie like a trooper anyway?

The other day we sneak-glimpsed a reel or so of the stuff Charles Lang, A.S.C., lensed for Walter Wanger's "Sundown." If the picture is equally good, maybe Charlie will be able to collect another Academy "Oscar" to go with the one he won a few years ago; anyway, the scenes we saw were gorgeous.

Be careful if Karl Freund, A.S.C., mixes you a highball. Two of them would be almost enough to make an assistant director say "No" to Cecil DeMille! And we can also report in glowing terms of Karl's swimming-pool as an ideal place to spend a hot afternoon.

Polito, Edeson Top Preview Poll

Top honors in virtually every classification of the Hollywood Reporter Critics' Preview Poll for July went to the Jesse Lasky-Warner Bros.' production "Sergeant York." Going over the top with the sergeant for first photographic honors were the film's two directors of photography—Sol Polito, A.S.C., who filmed the production sequences, and his associate, Arthur Edeson, A.S.C., who filmed the battle sequences. Merritt Gerstad, A.S.C., took second place for "Tom, Dick and Harry," while Joseph Walker, A.S.C., was third for his notable work on "Here Comes Mr. Jordan."

In this connection, we'd like to ask why, since the battle sequences in "Sergeant York" formed such a notable part of the production that director of photography Edeson received special screen credit for filming them, the Reporter, in its list of Poll winners, failed to mention him, though they found space to credit no less than four writers for their work in scripting the same picture?

Charles Rosher, A.S.C., dining at the Gotham and doing a rave on the swell camera-job Lucien Ballard, A.S.C., turned in on 20th-Fox's "Wild Geese Calling."

Johnny Mescall, A.S.C., looking uncommonly fit, dropping in to say hello before taking himself a vacation.

Our apologies to Phil Tannura, A.S.C. Seems we let the cat out of the bag last month when we mentioned he sneaked in to see "Manpower," which Mrs. T. had been urging him to take her to —! There's a boy who's been mighty busy lately: since he inked his Columbia contract only a few months ago, he's lensed one "A" feature, three or four "B's" and a short or two!

Did you know that Barney "Chick" McGill, A.S.C., had been very seriously ill these last six months with a near-fatal heart-attack? He's beginning to get out and around now, but he'd appreciate visits from his friends.

Over on Warner's "The Man Who Came to Dinner" set, Tony Gaudio, A.S.C., battling a personal tummy-ache. Maybe there's one man who didn't look too closely at where he came to dinner—!

John Alton, A.S.C., dropping in to help our rather poor knowledge of Spanish by translating a bunch of letters received from Latin-American readers.

THROUGH the EDITOR'S FINDER

A PICTURE was recently previewed, the work of an outstanding director of photography who made with it his debut as a director. Next morning we noticed the trade press went violently out of its way to damn the direction—almost as rabidly as though the man in question had refused to take advertising space in their pages.

Unfortunately, we did not see the picture, though we intend to. So we can't say whether or not that condemnation was justified. Offhand, we'd say from what we personally saw on the set that it wasn't. And we know of plenty of instances where these trade-paper authorities have reviewed first-production efforts from "directors" drafted from other fields, where the direction, to our mind at least, was most pungently amateurish, and sidestepped the issue by ignoring direction, and concentrating their verbal bricks and bouquets on cast, writing, and similar aspects. We can't help wondering why, in this case, they went so far out of their way to slap a good man down.

Maybe they expected too much. That is almost always the case when a cinematographer turns to direction. Press, producers and all seem to expect him, because of his technical mastery of the medium, to be able to do more than miracles—to rise above all the limitations of story, casting, budget, schedule and the rest, and make a cinematic silk purse out of a dramatic sow's ear. No conceivable amount of technical mastery can make this super-miracle possible.

Well, we're going to see that picture. We want to see for ourselves whether the august trade-paper demigods are correct in their unrestrained slams at direction, or whether it might be good direction handcuffed by less than B-picture budget and schedule, implausible story-construction and dialog, and a cast which (as we recall the printed credits) seems to exude a strong aroma of ham and fine old whiskey.

WE can't think of anyone to whom the camera profession owes a bigger debt of gratitude at this time than Gregg Toland, A.S.C. Opinions may differ as to the technical and artistic merits of what he did in bringing Orson Welles' "Citizen Kane" to the screen, but it cannot be gainsaid that the arresting visual treatment he gave that film has done more than any other single achievement of the last twenty years to make the public at large conscious of the cinematographer and the creative part he plays in making a motion picture.

Moreover, even within our own ranks Toland's "Citizen Kane" technique has acted like a tonic. Some cinematographers are fervently enthusiastic about it, pointing out that while it is based on obvious and familiar photographic

principles, the particular combination Toland devised, and their application to practice as in "Citizen Kane" constitute one of the very few radically new cinematographic concepts in the last decade or so. Others, with equal vigor and sincerity, hold that this technique means a departure from all the standards of good photography toward which we have been striving for so many years.

In other words, good or bad, "Citizen Kane's" photography is making the industry's cinematographers think more seriously about what constitutes good cinematography than any picture since Karl Freund's "Variety" of fifteen years ago and the pioneer Billy Bitzer-D. W. Griffith achievements some ten or fifteen years before that. As such, it is doing the entire camera profession a good turn—jolting it out of the complacent acceptance of doing things thus and so because that is the accepted way, which has been all too apparent in almost every studio.

"Citizen Kane" and its "pan-focus" technique may be a flash in the pan; we're as yet too close to it to know. But in making the industry's cinematographers think and talk analytically about their work, it is serving a useful purpose. After all, we can't make much progress in anything unless we've a clear mental impression of what we're striving for. And even to those cinematographers who disagree most violently with Toland's ideas, the controversy is giving a new and clearer perception of the kind of camerawork they consider the goal to be attained.

AS more and more Technicolor pictures are being made, an interesting professional problem is developing. Is it, or is it not advisable that the production cinematographer have with him a Technicolor cinematographer? Both sides of the question have ardent advocates, and good arguments to commend them.

Those who feel the production cinematographer should work alone point to the fact that it has been done, and successfully, in several instances. They point out that the Technicolor cinematographer, as an employee not of the studio but of the color-company, tends inevitably to take the conservative path, avoiding innovations in lighting and similar techniques. And they say that only by taking some chances—by trying an occasional daring experiment—have we advanced the artistic scope of black-and-white camerawork: therefore, taking the safely conservative course can hinder the advance of color. And for their crowning argument many of them point to the constantly-increasing use of Technicolor as an indication that eventually all major productions will be made in color: so, they say, there will certainly not be enough Technicolor

specialists to make possible that sort of teaming then—so why do it now?

Those who take the opposite view have equally good arguments. Color is new, they point out, and failures even more expensive and embarrassing in color than in black-and-white. Therefore why not take advantage of having with you a man who is thoroughly versed in the proven limitations and possibilities of the process. After all, it's to your own benefit! Further, many of them state, modern production has become so complicated that even in black-and-white it would be of great advantage to the cinematographer and studio alike that the director of photography have associated with him an associate director of photography to lessen the physical demands of what is actually a strenuous two-man job. In color, with its greater complication and acknowledged technical limitations, such collaboration is even more desirable, so since it is already an established practice, by all means continue and encourage it.

With such valid arguments on both sides of the question, we're certainly not taking sides. But it seems to us it could stand more extensive discussion, both in these pages and elsewhere.

We can't help wondering if the present shortage of materials used in making amateur cine-cameras and equipment may not, in the long run, turn out to be actually beneficial. The Government agencies charged with conserving our supplies of aluminum, steel, copper, etc., for use in defense industries point out that many articles ordinarily made of these metals can very well be made, not only as well, but possibly better, from modern plastics.

We have an idea that 16mm. and 8mm. home-movie cameras might very well be in this class. After all, even since the advent of sound some thirteen years ago, studio cine-cameras have been making use of plastic gears; some European studio cameras have made use of plastics for film-magazines and similar parts, and at least one we've seen made use of tough, semi-resilient plastic, reinforced by a single, steel frame-plate, for the entire camera-housing.

According to some of the reports we've read, there are plastics now available that offer much the strength of steel, and which can be moulded, shaped and machined in ways sometimes superior to the way we are accustomed to handling metal. So is it too far beyond the range of possibility to look forward to a home-movie camera which, with the exception of its steel spring and glass lens, would be made wholly of light, strong plastics, and capable of even greater mass-production than our present types of construction?

PHOTOGRAPHY OF THE MONTH

THE LITTLE FOXES

Samuel Goldwyn Production; RKO-Radio Release.

Director of Photography: Gregg Toland, A.S.C.

Gregg Toland's first release since "Citizen Kane" is a worthy successor to that memorable achievement. It could hardly be hoped that in any production made under more standard conditions than applied during the making of the Orson Welles film the visual and dramatic aspects of presentation could be so perfectly integrated, and even though "The Little Foxes" is the product of one of Hollywood's most brilliant teams—Producer Samuel Goldwyn, Director William Wyler, and Director of Photography Toland—it inevitably lacks that perfect coordination. Much of this can of course be traced to the material, for "The Little Foxes" is after all a picturized stage-play, rather than an original created directly for the screen. It is more verbal than visual in its dramatic approach.

But for all that, "The Little Foxes" is a picture no one should miss. Dramatically gripping, it is one of the most impressive displays of technique—the technique of writing, acting, direction, art direction, and every other phase of film craftsmanship—ever screened. You may not always agree with the concepts of its makers, but they make you think, and think seriously, about the skill and originality displayed.

Toland's contribution is as usual outstanding, and upholds his reputation for photographic daring. Few cinematographers would have the courage to present a great star as he presents Bette Davis; fewer stars and producers would have the courage to agree with that presentation as do Miss Davis and Producer Goldwyn. For Toland saw the film's central character as a woman twenty years past the first flush of youth—hardened, bitter, avaricious, scheming, almost wholly devoid of any admirable qualities save perhaps strength. And his camera and lighting made her that way, almost completely avoiding any softening or glamorizing treatment. So subtly that it may easily pass unnoticed, Toland's sensitively-keyed camera treatment of the players does much to strengthen the dramatic power of his vividly-etched characterizations.

As might be expected, Toland makes extensive use of the so-called "pan-focus" technique which has received so much publicity since the release of "Citizen Kane." In the main, it is effective, too, though there are some scenes which clearly display weaknesses of this technique which show how carefully its use must be pre-planned, lest it harm as well as help a picture. For example, there are some scenes, played with this increased-

depth technique, in which it seems definitely to detract from the compositional and dramatic value of the scene. With two or possibly three players carrying important action in the immediate foreground, and two or three others visible between them, carrying equally significant action in more distant planes in the background, the composition at times seems scattered; the eye hardly knows where to look. In consequence, the dramatic force of the scene is weakened—scattered—in a way that would not be the case had the composition been more simple and direct.

Similarly, in the climatic scene in which Bette Davis sits unmoved through her husband's heart-attack, coldly refusing to get him the medicine which might save him, a more conventional presentation is used—and one misses the more realistic "pan-focus" depth which has heretofore been used throughout the picture. Miss Davis is shown, in a medium-shot angle, sitting unmoved, following with her eyes the movements of the stricken man as he is heard staggering from one piece of furniture to another beyond camera-range, crossing behind her, and finally crawling laboriously up a flight of stairs in the background, only to collapse halfway up. In this shot—almost alone in the whole picture—the background is thrown deliberately out of focus. It may be necessary for dramatic reasons—to lessen the shock to audience sensibilities—but following upon some eight or ten reels in which the background was crisply defined, it also gives the audience a sense that something is lacking—a sense, perhaps, of artificiality. If Toland's "pan-focus" or other similar depth-increasing techniques come into more general use, as appears likely, this is a problem that will deserve careful study; it is certainly not as yet solved.

LYDIA

Alexander Korda Production; United Artists Release.

Associate Producer and Director of Photography: Lee Garmes, A.S.C.

It has been an unduly long time since American screens have seen an example of Lee Garmes' hauntingly pictorial camerawork. But "Lydia" makes up for that: it is Garmes' camera-pictorialism at its best, with scene after scene of memorable beauty. And in his dual capacity as not only Director of Photography but as Associate Producer, Garmes rings up a distinguished hit for himself on both counts.

Photographically, "Lydia" is a delight. Garmes' compositions and lightings are perfectly keyed to the diverse moods of the action, ranging from idyllic beauty to austere menace. One entire sequence—the "dream ball"—depends almost wholly on the camera for its ef-

fect. Filmed on a set of almost extravagant proportions, it makes use of slow-motion camerawork to impart an air of poetic unreality to what is later shown to be a young girl's idealized memory of what was after all a rather prosaic function.

Garmes' camera-treatment of the players is excellent. Merle Oberon, in particular, benefits greatly by his skill; we have seldom seen her photographed to such good advantage.

The other technical contributions are of an equally high order. The make-up, credited to the House of Westmore, is a noteworthy example of fine character-makeup, for it takes the five central characters through a forty-year span from youth to age, and does it—with the possible exception of Miss Oberon's eyes—with remarkable believability.

The settings, jointly credited to Production Designer Vincent Korda and Associate Art-director Jack Okie, are outstanding. We're glad to see Okie's name again on the screen, for he is one of our more skillful art-directors. A few words of criticism cannot be avoided, however. In many instances the backings used are not of the most convincing quality, and intrude a jarring note in an otherwise excellent ensemble. Similarly, too, the canopy used over the penthouse terrace where the characters meet for the first time in forty years seemed to us too strongly patterned; its highly-contrasted black-and-white striping formed an intrusive element in the composition of the longer shots, and made it visually difficult to concentrate attention on the people.

The musical score by Miklos Rozsa was another highlight, though once or twice it seemed unnecessarily intrusive. The special-effects work by Lawrence Butler was good, and Director Julien Duvivier's contribution excellent. Several sequences in the preview print were marred, however, by a noticeable unsteadiness. This might have been in either the printer or the projector individually involved. We hope it was one of the latter, and hence remediable, for it detracted from an excellent picture.

OUR WIFE

Columbia Production.

Director of Photography: Franz Planer, A.S.C.

"Our Wife" is the first example of cinematographer Planer's work this reviewer has chanced to see. It leaves a most satisfying impression. His camera-treatment is sensitively-keyed, highly pictorial, and conveys an impression of richness which does a great deal to enhance the production.

His treatment of the players is gen-

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TYPEWRITER TITLE TRICKERY

By ROBERT W. TEOREY

Los Angeles 8mm. Club

ALMOST every movie-maker possesses a typewriter-letter size titler. To the average owner, this auxiliary device appears limited to fixed or stationary titles and in consequence there is no variation from the lead and explanatory titles to the wordings interspersed throughout an entire reel.

A modicum of variety in title presentation adds a large measure of interest to any program in addition to improving the amusement value of our home movies considerably.

But even though you have only this small titler to work with, you can enliven your titles at a minimum of trouble and hardly any expense. And, in the end, you will have adaptations that will put your titler on a par with devices costing several times your present investment!

The prime requisites are heavy cardboard, pins, a couple of paper clips, some large corks, Scotch tape and a razor-blade to be used as a cutting tool. These requirements are almost too simple and may seem slightly open to question; but the results obtained in forming these materials into trick title devices will tell a story in action titles that will amply reward you for your efforts.

Figure 1 reveals what may be termed a Flip-flop—although in operation it is anything but the latter half of that hyphenated word. This adaptation has a title on each side of the cardboard rectangle framed in the center of the easel. During filming—when sufficient exposure has been made of the opening title—the title on the reverse side is flipped into position by the simple expedient of rotating the center-piece by means of a pin inserted as a handle at one edge.

A bit of mystification may now be

added to this set-up by pasting a new title over the opening title which is now on the side away from the lens. Start the camera and add a short length to the footage already exposed of the second title and then flip the piece back to its original position. This brings the new or third title to view. The illusion thus created is that three titles have very smoothly materialized from the single section of cardboard mounting.

Figure 2 is similar to the Flip-flop with the exception that it operates in a horizontal plane.

These two title set-ups are prepared as follows: A section of cardboard is cut to the exact outside dimensions of the titler easel and inserted therein. A pencil outline is then made of the easel aperture after which the section within the line is cut out with the razor-blade. From this—the title area—approximately an eighth of an inch is trimmed from the edges with the exception of small sections at the points to be pivoted. The piece is then re-fitted in the cut-out frame and pivoted at the exact center of rotation by means of pins thrust through the edges of the cardboard. Titles may be printed directly on the center-piece, or printed separately and attached by tape or pasted lightly by the corners, as is the case of those illustrated.

The Zoom title gadget depicted in figure 3 is a rectangle of cardboard somewhat larger than the easel so that when drawn back for the beginning of the movement the edges of the card will not be visible during the projection of the opening frames of the title.

This card is thumb-tacked to the end of a 3- or 4-inch length of wood. More thumb-tacks are lightly pushed into the table in rear of the easel to provide a

guide track for this base to follow in the forward motion so essential to provide the zoom effect. The lower edges of the cardboard on each side of the block are trimmed to provide clearance for the assembly to glide over the guide tacks.

Print your titles on paper the size of the rectangle and secure with tape or paste as mentioned before. Draw the assembly to the farthest point allowed by the track; start the camera and move the zoom device up against the easel and the opening effect of this arrangement is effected.

The spinning arrangement (figure 4) consists of a section of cardboard fitted in the spring-back of the easel, and a round piece large enough to hold a title background of the size determined by the titler-mask. The pivot is a small nail which has been pushed through a bit of cardboard and cemented at the exact center of the disk. The nail is then thrust through a hole centered in the easel card and a large cork is pushed over the nail to hold the assembly in place. A pin inserted off-center in the cork serves as a spinning handle.

To secure the effect of one title spinning into another, square your first title on the disc with the titler-mask and expose sufficient footage for the wording. Then, while the camera is still in operation, spin the title. While the title is rotating, stop the camera. Now replace the lead-title with the one next in order, and after squaring this with your titler-mask, expose for the text.

The appearance on the screen will be that of the first title spinning into the second one without a noticeable break. It makes a very effective and novel transition, and may be repeated as often

as required to complete a sequence of titles.

A cardboard tube is very useful for the drum title arrangement figured in 5 but if none is available one can easily be made in the manner of the one pictured here. A piece of pliable cardboard of the desired width was rolled about a soup-can and the edges were taped together forming the tube. The up-ended can or similar material patterned discs for the ends. Corks glued to the centers of the discs formed substantial bases for the pivots. The circular sections were then fitted into the tube ends and permanently set in place with a few drops of glue.

The holding frame consists of a single piece of cardboard fitted in the easel. Two vertical flaps are cut in the section framed in the easel and bent to the rear and trimmed to accommodate the drum. The off end of the drum is mounted in place with a pin while the other end is held in place with a bent paper-clip which serves as an operating handle. The end of the clip pushed into the drum end is flattened by blows of a hammer to prevent it from twisting in the cork when the tube is revolved.

Typewritten or printed titles may be secured to the drum with tape, thus making it easy to interchange them. Center the title; then photograph the visible length and when this has been read through once slowly turn the drum, bringing to view the remainder of the text.

The scroll title frame is also fashioned from a single length of cardboard. However, this piece extends about an inch above the top edge of the easel. Two flaps have been cut and bent inward on this section to hold a round piece of wood which is held in place at one end with a pin and at the other end with a bent paper-clip which serves as a winding handle.

A slit has been cut in the cardboard near the lower edge of the easel opening (figure 6). The length of paper on which the title is typed or printed is brought through this slit from the rear and the top edge is taped to the roller.

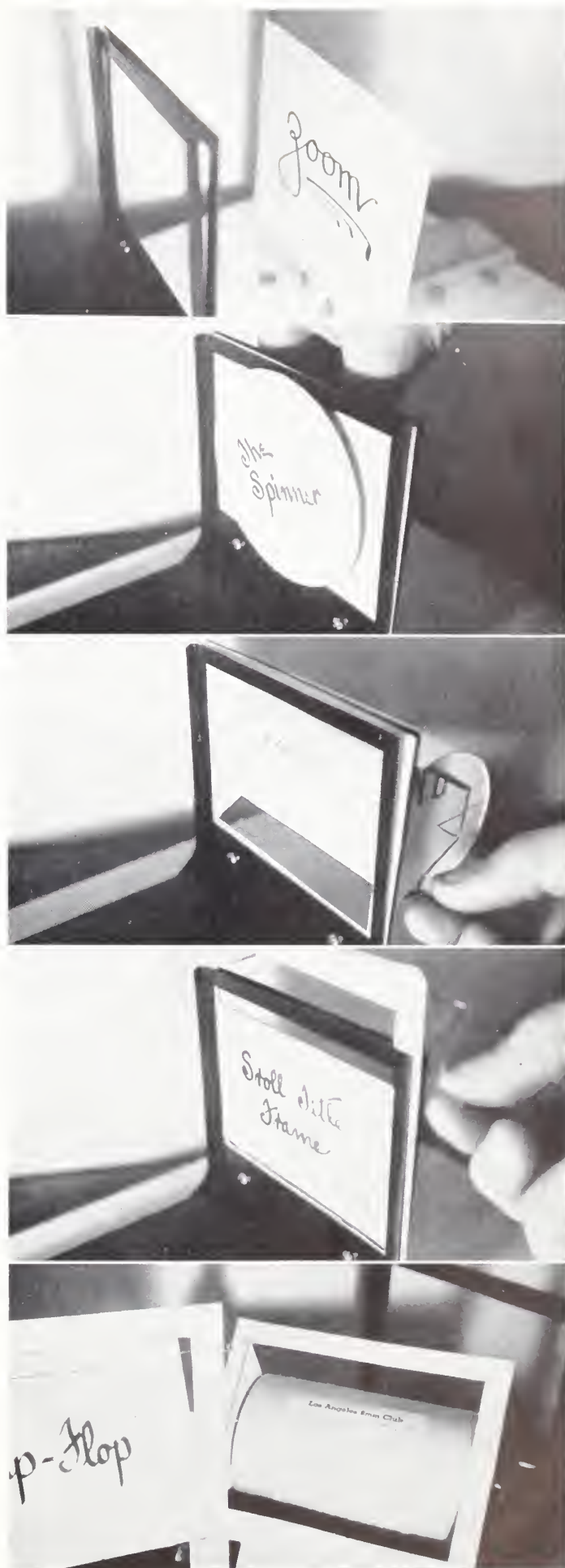
Expose your camera until the visible words have been read through once, then very slowly and evenly start winding the paper on the roller, bringing to view the balance of the wording.

Figure 7 illustrates the Flip-flop and drum after being removed from the easel.

Only six methods of action titles are illustrated. However, there is no limit to title trickery. Many variations may be worked up—and quite simply, too. Those having the Eastman titler can photograph a sequence of two titles by exposing for the first title and then pushing the easel forward. Replace with the second title, start the camera and return the easel to its upright position. Nothing extra is required and the effect is gained through the fact that the easel can be manipulated.

For a lead and two follow-up titles

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On opposite page, left, Fig. 1; right, Fig. 2. On this page, from top down, Figure 3; Fig. 4; Fig. 5; Fig. 6 and Figure 7.



Edit Your Films The Professional Way!

By WILLIAM HORNBECK

Supervising Film Editor
Alexander Korda Productions

the film-editor's work is creative, rather than merely mechanical.

But how often all of us have seen 16mm. and 8mm. films whose makers have "edited" them by simply cutting off the leaders from 100-foot or 50-foot laboratory reels and splicing the footage together on a larger projection-reel, possibly adding main and end titles! To the professional, this is about equivalent to the first rough assembly of a studio production, with the identifying scene-numbering slates trimmed from each scene, and the various shots arranged in numerical sequence. It is at this point that the real task of editing begins!

What happens next? Well, suppose we follow through the editing of a typical vacation picture and see how the professional would go about it.

Most vacation films are almost inevitably shot more or less in sequence: you start from home, you go some place, then maybe look in at another resort or city en route, and finally come home. You don't very often back-track over much of your vacation trail, so if you assemble your vacation-film footage on a projection reel with the scenes you shot first at the beginning, and the others following in pretty much the order they were shot, you'll probably find your scenes in about the correct sequence to give a good picture of your vacation route.

While you're making this assembly, snip out not only the leaders and the fogged strips where you hurriedly reloaded your camera in too-bright light, but eliminate, as well, those occasional fogged frames where your camera ran down and left the shutter open, the false starts you made where you had to stop in the middle of a shot because your actors did the wrong thing, or where you forgot to wind the camera.

At this point, it's a good idea to study the film over on the screen once or twice. This will show up more things that have got to be eliminated—scenes where you forgot to use your meter (or used it carelessly) and which show up as over- or under-exposures on the screen, shots that are uninteresting, and so on.

This is a good time, too, to look squarely at one of the big menaces to all amateur vacation films, and nip it, so to speak, in the bud. Most of us, when we go vacationing, are likely to combine

travel with visiting friends and relatives. And the film-record of the trip is likely to include not only shots of the places we went and the things we did, but the scenes we made of Aunt Dolly and Cousin Henry, so the folks at home could see what they looked like.

These latter shots are invaluable as matters of personal and family record, but we might as well admit they aren't likely to be very interesting to the average audience. So let's eliminate them from our picture right away, and keep them as a special "supporting feature" to be shown only at family gatherings. The picture will be a lot the better for it.

Now—if you're reasonably honest with yourself—you'll begin to see spots where the picture is slow and draggy. Usually it's an oversupply of "pet shots"—pictorial gems in themselves, but so darn similar they're repetitious. Maybe you saw a landscape you liked, or a waterfall, or a sunset, and filmed it from half-a-dozen slightly differing angles, or with different exposure or filterings. For the sake of argument, we'll say you're a good enough photographer so they're *all* first-class photographically; but too many of them, repeated, will get the audience so tired of that particular vista that none of them seem good. You'll do much better to eliminate half or three-quarters of each of these pet-shot sequences.

I remember one amateur picture I saw, which ended up with one of the most spectacular Kodachrome sunsets anyone could ask for. The man at the camera had done a good job. He had a succession of shots the beauty of which any audience—amateur or professional—would spontaneously applaud. But the same sunset, twelve times repeated, ended what might have been a swell picture on a note of boredom.

By the same token, remember that even if you did capture some lovely Kodachrome sunset shots, there's really no law that compels you to use them for the end of your picture. It's all right—but so many other filers have done the same thing that most movie-wise audiences snicker—and reach for their hats—when a sunset-shot comes along to telegraph word the end-title is coming. Much better use some less conventional ending, preferably something with a sur-

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ONE thing the professional film-editor finds amazing about amateur movie-making is the way so many amateurs seem to consider that editing and splicing film mean the same thing. To the professional, they don't. Editing necessarily includes the mechanical operation of splicing, but it doesn't end there by any means, any more than writing begins and ends with the mechanical act of sharpening a pencil.

As a matter of fact, the modern film-editor seldom, if ever, does any actual splicing. He (or she, for many of our best editors are women) cuts the film—arranging the scenes in their most effective order, shortening this scene or that sequence, suggesting how another should be built up with added scenes, choosing between this angle on a given action, and that one. But as a rule somebody else makes the actual splices, for

Selecting Music For Your Vacation Movie

By WILLIAM STULL, A.S.C.

MUSIC may—or may not—have charms to soothe the savage breast, but there's no doubt a well-chosen musical accompaniment can certainly soothe audiences into thinking better of the home-grown movie. And since movie-makers all over the country have added scoring (via the twin-turntable and phonograph-record route) to their movie-making hobby, the question of choosing the right records to accompany home-movie showings is becoming fully as important as filtering, editing, or any more strictly photographic problem.

For most pictures, though, this problem isn't nearly as serious as it seems, for with the exception of the more "plotty" scenario films, a musical score for a home or vacation movie is best if it is kept a simple accompaniment, rather than an intricately-arranged thematic score. Of course it's nice to tailor an almost professionally thematic accompaniment, with a musical change for almost every change of camera-angle—but performing it in the dark, while you're worrying about how the volume is for the folks down front, and what in blazes the projectionist is doing with projector-speeds is an entirely different matter! Your elaborately-cued score is likely to go very sour indeed, and end up by being almost worse than no music at all.

The best practice, therefore, is to keep your scores simple, letting each record provide a musical background for just as much footage as it possibly can. Of course, now and then we strike abrupt changes of mood, action or tempo which simply stand up and yell for a change of music. When that happens, we've no alternative except to give in and dish up another platter. But wherever possible, choose your music so you can simply put on one record and play it completely through, following it with another that's to be played completely, and so on.

Second in importance only to simplicity, and blood brother to it, is the matter of keeping the music in the background, rather than letting it get "out front" to be a show in itself. For this reason, steer clear of familiar tunes (especially popular or frequently-played classical ones.) They (or their titles) may express the mood of your picture perfectly: but when they start, half your audience is likely to prick up its mental ears and say "Oh, I danced to that (or heard it on the radio) last night!—meanwhile mo-

mentarily forgetting the picture entirely.

For the same reason, avoid records with vocal choruses or interludes. The intrusion of voice and words shoves the music out of its place in the background into the foreground of audience-attention. As a soloist, Bing Crosby or Judy Garland may be tops—but used to accompany pictures their waxed voices will steal the spotlight from the best picture ever made. Moreover, even though the tune itself may be all right, the words can sometimes conflict embarrassingly with what's happening on the screen.

Since the accompaniment must be unobtrusive, keep your accompanying records all of the same general type of instrumentation. That is, don't slip an organ record into an otherwise completely orchestral score, or a swing band into a succession of symphonic discs. And the same rule usually goes double as regards instrumental solos.

This doesn't by any means imply you'll need a large selection of recordings to draw upon for scoring your pictures. An expansive record-library may give you more variety in creating movie scores, but it's by no means necessary. During the last four years, as a member of the Sound Committee of the Los Angeles 8mm. Club, I have scored several hundred films of almost every description, from scenario films and documentaries to vacation travel-reels and home movies: and practically all of it has been done with scarcely more than a dozen records. It is safe to say, then, that a library of two or three dozen well-chosen records should enable one to provide an adequate score for almost any kind of a picture.

Here are the titles and numbers of the ones I have used most frequently. First, and perhaps the most generally useful, is a two-disc set of the ballet music from Thomas' opera "Hamlet," played by the Grand Orchestre Odeon on Decca records No. 25,200 and 25,201. These two 12-inch discs are of the pleasing, "general" sort of music which will form a nice background for almost any sort of picture. Another set very frequently used is Serge Prokofiev's "Classical Symphony," played by Serge Koussevitzky and the Boston Symphony Orchestra on Victor records No. 7196 and 7197. Another of this same composer's works which is useful for scoring purposes is his "Lieutenant Kije" suite, which, played by the same orchestra, is available as Victor Album M-459.



This, incidentally, is genuine "movie music," for it is from a score this Russian composer wrote a few years ago for a Soviet film comedy of the same name.

Another album set which contains selections which will suit most average vacation films is Victor's Album C-17, Glazounow's "Scenes de Ballet." Another set of which I have made much use is "Ballet Russe," by Luigini, which so far as I have been able to determine is available only in a British recording, H.M.V. records C-1948 and C-1949, played by John Barbirolli and the Royal Opera Orchestra, Covent Garden. This and some other foreign recordings may, however, still be available through The Gramophone Shop, 18 East 48th Street, New York, a firm which for many years has specialized in imported recordings.

Undoubtedly the most useful composer of movie music is the English composer Albert W. Ketelbey, best known in this country as the man who composed "In a Chinese Temple Garden." This, and such of his other compositions as "In a Persian Market" and "In a Monastery Garden" are available easily in this country on both Victor and Columbia recordings; but the most useful of his music has not come over here except in the form of imported records. However, as he is the Musical Director of the British branch of the Columbia Recording Company, he has made many other records which, while difficult to obtain during the present wartime conditions, I can heartily recommend to anyone who takes his scoring seriously. They have been the mainstay of many of my own scores. Among these may be named his "Cockney Suite," consisting of "A State Procession (Buckingham Palace)"; "The Cockney Lover" on British Columbia No. 9860; "At the Palais de Dance (Anywhere)" and "Elegy (Thoughts on Passing the Cenotaph)" on disc No. 9861; and "Bank Holiday ('appy 'ampstead)" on No. 9862.

Also strongly to be recommended is his "Three Fanciful Etchings" suite—"A Passing Stormcloud on a Summer Day;" "The Ploughman Homeward Plods His

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"Highlight" Exposure-metering With ARTIFICIAL LIGHTING

By P. C. SMETHURST

THE possibility of measuring lighting contrast and linking it up with both image quality and camera exposure is exceedingly useful in artificial light. Here, there is no sky to lighten up the shadows, and since most reversal films reproduce a scene rather more contrastily than we seem them visually, it becomes important to be able to put sufficient light into the shadows for them to have the required tone values on the screen.

Again, the highest reading on the meter as the card is placed in the subject position and slowly turned round to face all the lamps in turn is used for camera exposure, and we may link this up with the shadow light-value on the meter, and find out how much exposure difference there is between the floodlight of the shadows and the accent light which reproduces the sun. A thorough speed test on a chosen film in artificial light will make it possible to draw up a table of the type shown below, in which the relation between the meter-reading on floodlight, accent or key light, and backlight (all taken from the position of the main subject, of course) can be set down against the effects produced on the screen. After this table has been drawn up, it is in the future possible to duplicate any kind of shot whatever so long as the factors relating to it have been preserved.

Accent-light is measured as maximum meter-reading with artificial high-light on the lamps on the camera side of the subject. Shadow-light is simplest measured at right angles to the reading posi-

tion for accent-light. Backlight is maximum meter reading on the lamps on the far side of the subject from the camera.

The foregoing notes have shown that there is nothing particularly difficult in the method outlined to obtain a standard image quality, but it is important that unless processing is consistent it is out of the question to expect that the images will all appear identical in screen quality. For this reason, it is essential to request that the speed test and all subsequent films are given uncompensated time-and-temperature processing, so that no attempt is made by the laboratory to correct special-effects which may seem to them to have been over or under-

exposed. Quite apart from this, the exposure standard chosen by one man will be quite different from that of another, if the two are not using the same power of projector and the same size of screen, and it would be foolish to get the processing people to compensate both their films to give one standard of image quality.

Color films, in any case, cannot be compensated during processing for exposure errors, so that in this case it is out of the question to save the image in the laboratory, and unless the exposure has been correct in the first place the results are not perfect. In color films, as with an automatic telephone exchange, any wrong numbers are the fault of the man who does the dialing.

Some small practical points may be mentioned here. If the film used is not backed, there is quite a chance that distant scenes may appear to be overexposed as compared with the foreground, but this is due to light spreading about in the film emulsion, and not to errors in the theory of the present exposure method. With reasonable care, stocks without backing can be used, but if there is any trace of shine on the pressure-pad behind the film gate the light passing through the film will be reflected back into the emulsion and the definition and tone values of the scene are bound to suffer.

It is always important when taking a reading that the light is not prevented from reaching the artificial high-light either by the body or the hands. This is usually simple in daylight, but not always quite so simple in artificial light.

It is possible to use a reflecting surface of neutral grey in place of an artificial high-light, but since few of the greys obtainable are really neutral in tint, errors due to differential color-reflection are not uncommon, and since in any case a speed test must be made there is little advantage in using the grey. A checker-board of black and white squares could also be used, but it cannot usually be cleaned without altering the exposure standard read from it.

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Meter reading above or below standard exposure for matched face tones.	Floodlight (giving the appearance of the shadows of the scene)	Accent light (showing the appearance of the lightest face tones)	Backlight (showing the appearance of the halo around a head)
- 2½ stops	Dark shadows, no details.		
- 2 stops	Full dark shadows, some detail.		
- 1½ stops	Medium dark shadows.	Night effects.	
- 1 stop	Lightish shadows.	Accent—Light for low-key image.	Faint.
- ½ stop	Light shadows for high-key work.	Medium low-key accent-light.	Noticeable.
0 (i.e. standard camera exposure)	Very light shadows for high-key work.	Standard image quality.	Pleasant.
+ 1 stop		High-key accent-light.	Strong.
+ 1½ stops		Very high-key accent-light.	Brilliant.
+ 2 stops		Face tones burnt right out.	Halo burnt out.

A HOME-MOVIE MYSTERY FOR FATHER AND DAUGHTER

By

MILTON R. ARMSTRONG

Co-Founder, L. A. 8mm. Club

EDITOR'S NOTE: This production-tested scenario is adapted from one with which author Milton R. Armstrong took a prize in a recent contest held by the Los Angeles 8mm. Club. He filmed it in Kodachrome, making a 50-foot 8mm. picture which gave him an opportunity for a number of interesting effect-lightings in color. The moonlight-effects called for can be obtained by placing a blue gelatin over the regular Photoflood light used in lighting the interiors. The color-lighting change required in Scene 11 can be obtained very easily by starting the scene with the blue gelatin over the lamp, and then removing it. If you have a spotlight you can get some very interesting effect-lightings, too, by lighting the room itself with the blue-filtered light, and using the spotlight on the little girl, to simulate the warmer light from her candle.

MAIN TITLE:

THE GREAT SEARCH FOR YEHUDI

Scene 1. FADE IN. Medium-shot of Mama, reading. Her daughter Carol, a three- or four-year-old, enters right, leans over arms of chair, and speaks.

TITLE:

"WHERE'S DADDY?"

Scene 2. Close two-shot of Mama and Carol. Mama speaks.

TITLE:

"LISTENING TO BOB HOPE ON THE RADIO."

Scene 2-a. Same as Scene 2. Carol nods and exits, right.

Scene 3. Medium long-shot in Daddy's den. Daddy is sitting on the floor by his radio. From time to time he laughs, enjoying the program. Enter Carol from left. She seats herself in her chair by the radio, and listens too.

Scene 4. Close-up of Carol. She speaks inquiringly.

TITLE:

"WHO'S YEHUDI?"

Scene 4-a. Same as Scene 4. Carol finishes speaking.

Scene 5. Close-up of Daddy, with back of Carol's head in left foreground. He slowly registers awareness of the question, turns his head to Carol, and speaks.

TITLE:

"YEHUDI DOUSES THE LIGHT IN THE ICE-BOX."

Scene 5-a. Close-up of Daddy as he finishes speaking.

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Frame enlargements from Armstrong's film. Above, from top down, Scene 2; Scene 3; Scene 4; Scene 11; Scene 10. At right, from top, Scene 13; Scene 14; Scene 20; Scene 21; Scene 24.



Depth of field increases as lens is stopped down. Above, f:12.5; below f:2.

Get Acquainted With Your Lens

By CLAUDE CADARETTE

Founder, L. A. 8mm. Club

THE lens of a camera is its eye. In the same manner that your eyes form an image on the retina of the eye-ball, the lens has the function of rendering an image on the film surface which is true in every respect to the original subject that is being photographed. Lenses are made in various combinations, starting from the single-element lens, such as an ordinary reading glass, to very complex combinations that are developed for extreme sharpness, all corrections, and highest efficiency in light transmission.

The single-element lens will form an image, but it does not have the ability to correct certain defects that occur. As we view the image formed by a simple lens, we notice that the image appears fairly good, but on closer examination we find that the sharpness is not all that is to be desired, and the edges of the image are distorted. These defects would be very obvious when enlarged on a screen by projection. As a result, the simple lens fails to render a true image of the subject and cannot be used in photography where absolute correction is needed. Therefore, we must use another type of lens that will overcome these defects by giving us a picture of uniform sharpness and a truthful reproduction of our subject.

In speaking of lenses, let us find out what happens to a ray of white light as it passes through glass. Newton discovered that a white ray of sunlight is broken up into many different colored rays of light as it passes through a prism. This separation of rays is known as a spectrum. He noted that the blue rays of light which are at one end of the spectrum did not bend as much as the red rays which form the opposite end

of the spectrum. The green and yellow rays were bent more than the blue but less than the red, and fell in their respective positions in the center.

A simple lens is in fact a glorified prism or really two prisms placed base to base. The lens, however, concentrates all of these rays to a point that forms an image. If the blue rays don't bend at the same degree that the yellow or red rays are bent, naturally they will not all meet at a given point and as a consequence, the image loses some of its sharpness and the image appears fuzzy or out of focus. This defect is known as chromatic aberration.

It was later discovered that certain types of glass had different powers of converging rays and that a combination of lenses made from flint and crown glass would make each colored ray of light converge at the same point, correcting the fuzzy effect caused by a simple lens.

This correction, although very advantageous was not sufficient to give an accurate reproduction of a subject and more research was done to improve lenses to correct for distortion and add greater speed in light transmission. In motion picture photography, it is necessary to have lenses having all corrective fundamentals as the image must be true when subjected to extreme magnifications on the screen. Speed is essential in motion picture camera lenses due to the fact that the shutter speed is constant and we are unable to make long time exposures under poor light conditions. Science has given us the fast lenses but a means of controlling the amount of light entering the lens was necessary so that we could have a consistent exposure on the film.

Just as the iris of our eye opens in a darkened room to admit as much light as possible, or closes to a pin point in bright light, it was necessary to construct a flexible aperture in the lens assembly to give this same control to the camera eye. This light-valve in a lens is known as a diaphragm. The size of the openings of the diaphragm are calibrated so that each stop on the scale admits twice as much light as the previous stop.

When a lens is focused on an object beyond one hundred feet from the camera, the distance from the diaphragm to the film surface or image formed, is known as the focal length of the lens.

The focal length of a lens determines the area width and height that can be photographed. This angle of acceptance in a lens varies with the focal length, the angle decreasing as the focal length becomes greater.

As an example, if we used a lens having a focal length of 1 inch, and can cover an area that is 30 feet wide, by using a lens with a focal length of 3 inches, we reduce the angle of acceptance to such a degree that the area covered is only 10 feet wide from the same camera position. The film records only $\frac{1}{9}$ of the original area and when projected on a screen, we get a telescopic result. For that reason, telephoto lenses are of a longer focal length but do not cover as much of the original area as the 1-inch lenses. The 3-inch lens will produce as large an image on the screen when photographed 18 feet from the subject as the 1-inch lens will produce at 6 feet from the subject. One can readily see the advantage this gives when filming difficult subjects. If you desire a closeup of some subject but are unable to approach it, the desired results can be had by the use of a telephoto lens.

The actual size of the diaphragm aperture can vary, but the value is always in direct relation to the focal length of the lens. In other words, the opening of f:8 on a telephoto lens is physically larger than the f:8 opening on a $\frac{1}{2}$ -inch lens, but each opening allows the same amount of light to reach the film. To compute the value of an opening, you divide the focal length of the lens by the diameter of the diaphragm opening and the result is its f-value.

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So You Want To Make 16mm Commercial Movies?

By One Who Tried It

THE author of this piece must remain anonymous for reasons that will become clearer and clearer as the story unfolds. Determined to tell all, he nevertheless doesn't want what is left of his life intruded on by well-meaning but argumentative visitors (and their wives) bent on convincing him that they must be classed as glorious exceptions to the unflattering facts he is about to set down. But at the same time, peeping surreptitiously over the Editor's shoulder, he has caught glimpses of a trend among certain classes of cinemateurs upon which a job of nipping in the bud ought to be done if the aforementioned cinefilmmers are to remain happy and well-fed.

To put it bluntly, it has come to my attention that there are quite a number of gentlemen living ordered, conventional lives, with jobs in respectable businesses, with wives perhaps, and in some instances even a kiddie or two, who are planning to give up their all for the privilege of producing commercial 16mm. motion pictures. It is this bit of news, gone unnoticed by most in the stress of more extensively-publicized international events, which has drawn me from hibernation. It touched me to the quick. (I'm not sure what the quick is, but it must have been something serious to drag me from my comfortable hibernation waiting for 16mm. commercial-film customers.)

If I were a psychoanalyst, girt about with whiskers and imposing degrees, I could probably find an impressive Latin name for the peculiar psychosis (or is it a fixation?) that impels these filmmakers to toss away a tangible something for a very problematical nothing. But even if I can't name the disease, I can analyze it, for I've had it—almost fatally—myself. And since it is a disease, we might as well preserve the pseudo-medical atmosphere and proceed to discuss the matter in terms of the case-history of a mythical individual who, with true medical reticence, we might as well call "the patient."

The patient has a good job. This is deduction in the best Sherlock Holmes tradition so I'm not divulging any private biz. He must have a good job because he has had enough money left over after paying the rent and the groceries to buy a movie camera, with all its expensive etceteras, cutting equipment, a projector and a screen. And

money enough after that to keep the omnivorous thing supplied with film. And that calls for more than hay. Then the patient has a car. Oh, yes he has. Even the worst patient knows that as far as he expects to go with his camera, he'll go farther in a car; for the present anyway. And so, I submit, our patient, who can afford all that is listed above, has a good job and is well off, even if he doesn't realize it.

Our patient, on his days off, sets up his camera at every likely opportunity, presses the button and in due course and after the proper delays, gets back a photographic record of the happy occasion. Friends who were present at the shooting are invited over and all respond enthusiastically. The women in the party may be individually, though privately, convinced that the cameraman didn't do a particularly good job for them personally, though sure he flattered her sisters; but the women, as a whole, are even louder than the men in their praise of the man whose patience, skill, art and sacrifice put the pictures on the screen. Not the inventor, you dope, the guy with the camera.

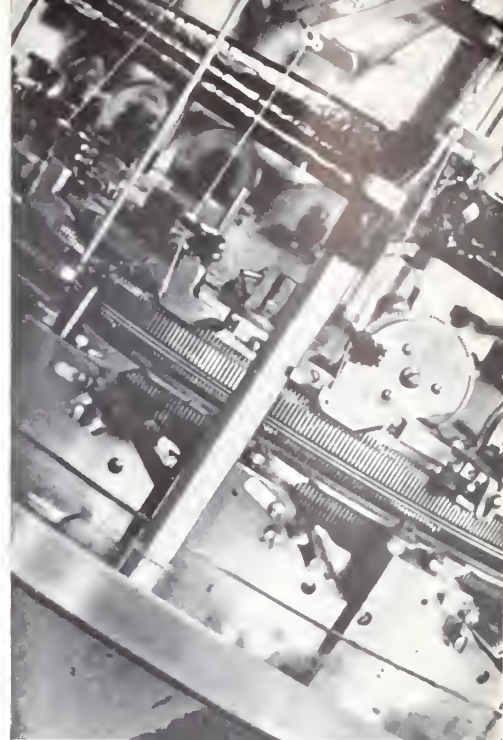
There is one bit where the camera was turned upside-down and the characters leap feet-first out of the water onto a springboard. The audience, seated in the cameraman's own darkened living-room, howl in unrestrained laughter.

There is another bit where the patient's son, age 2, advances quite unexpectedly into the picture as his father is shooting the son and heir of a visiting relative (not present and particularly disliked by those who are). The son of the visiting relative, age 19 months, is biffed over the head with a stuffed elephant by the son of mine host who got the whole thing with a 2" lens from the kitchen window unknown to the protagonists.

When this bit is shown it is hailed as a masterpiece. Such artistry, such human interest! How clever! How too, too sweet!

Then, as a piece de resistance, there flash on the screen scenes from a recent visit to the Grand Canyon. On that trip nothing less than Kodachrome would do. It would be a crime with all that color not to use Kodachrome. Sure it is more expensive. But what are a few dollars? After all, we don't take trips like that every week.

So all right. Wifey agreed, and all un-



Portrait of a message; otherwise, a glamour-shot of a knitting machine for a commercial movie.

beknown to anyone (till later) bought herself a particularly cute, and colorful, outfit to wear at that colorful spot. After all what's a few dollars? You don't make a trip like that every week.

Well, when those scenes flashed on the screen they really showed that it had been worth the extra for the Kodachrome. And our patient had made good use of the knowledge he had acquired, one way and another, on the best way to expose it. The colors were beautiful. And the camerawork was devoid of some of those more startling bits that had distinguished our patient's earlier work. There were no fast, dizzying pans, and he had carefully deleted the footage of what looked like a moving bacterial mass but actually was the patient's thumb in front of the lens.

Well, as I was saying, when these particular scenes were shown, when the reds and the yellows and the blues and the greens of that masterpiece of Mother Nature's were shown in all their glory, and none of their discomfort, right in our patient's living-room, there was a chorus of Ah's that would have delighted a tonsil expert.

A magnificent view across to the opposite side of the canyon was interrupted by another, equally beautiful, of a tilt down to show the donkeys with their human burdens journeying to the floor below. Then there was a view looking along the entire length of the cavity showing a glorious sky and framed in the immediate foreground by a gnarled fir tree. That was a masterly touch, that fir tree! Our patient remembered someone telling him that foreground would help his landscape shots and so, at the time of shooting, he had moved over enough to get it in his finder.

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AMONG THE MOVIE CLUBS

CALLING CLUB SECRETARIES!

This department of THE AMERICAN CINEMATOGRAPHER is your department. We feel that there is a great deal to be gained all around by making these reports of club activities available to other clubs and to independent cine-filmmers all over the country. To that end, we ask all you club secretaries to consider yourselves special reporters for THE AMERICAN CINEMATOGRAPHER with the assignment to "cover" the activities and meetings of your club.

The Editor.

Colorado Springs Studies "Mt. Zao"

The recently-formed Colorado Springs (Col.) Cinema Club's August meeting was highlighted by the showing of two notable prize-winning films loaned by THE AMERICAN CINEMATOGRAPHER. These were "Mt. Zao," the sensational skiing film made by Khoji Tsukamoto, of Japan, and "Prize Winner," made by J. Kinney Moore, of Brentwood, California. As a matter of fact, "Mt. Zao" was screened twice, the first time so that everyone could thoroughly enjoy the picture, and then the second time to study the methods of photography used. In this way the club members could give more attention to the study of the film and the camera-technique that made it one of the world's outstanding amateur film achievements. This method of repeating a notable picture for closer study can be recommended to other clubs.

August evenings are rather warm, even in Colorado, but "Mt. Zao," with all its snow-scenes gave the members at least a psychological aid in keeping cool. And the club thoroughly enjoyed Mr. Moore's homespun comedy, "Prize Winner." Seeing these two films gave the club an incentive to try to make better and more interesting pictures, and perhaps in the future THE AMERICAN CINEMATOGRAPHER'S "Home Movie Previews" department will see the results.

EARL COCHRAN, President.

Varied Show For L. A. Cinema

The August meeting of the Los Angeles Cinema Club, under the chairmanship of past-president Dr. LeRoy Bailey, provided the members an unusually varied screen programme of both 16mm. and 8mm. films. First shown was a Kodachrome film made by member Fred Doolittle, an engineer with the Southern California Edison Company, illustrating

the special equipment and methods used by his company's linemen in repairing extreme high-voltage power-lines without shutting off the current which in some shots was said to be as much as 225,000 Volts.

Through the courtesy of William Stull, A.S.C., Editor of THE AMERICAN CINEMATOGRAPHER, the Club was privileged to screen three notable films sent in to him from various parts of the country for review. First of these was "The Green Album," an all-interior 16mm. Kodachrome costume picture filmed by Miss Agnes Marx, winner of the Harmon Trophy in the Annual Contest of the St. Paul Amateur Movie Makers. Next was a pair of unusual 8mm. shorts, "Democracy," and "Mr. Hitler Never Loses," filmed by Joseph F. Hollywood of the Metropolitan Movie Club of New York. These two 50-footers, which made use of superimposed titles, animation, and miniatures were declared to be among the most unique pictures ever screened before the club.

Final feature of the evening was a showing of a commercially-made Kodachrome sound-film, "Unsung Heroes," made for the Westinghouse Co. by the Calvin Co., of Kansas City. Before showing this, Mr. Stull declared it was the finest example of all-16mm. production he had yet seen, and the picture more than lived up to his words. The optical wipes, transitions and split-screen effects especially proved a revelation to the members present.

JACK SHANDLER, Secretary.

Parkville Screens "Beyond Manila"

The August meeting of the Parkville (Md.) Cinema Club was devoted to study and discussion of making travel movies. The screen feature of the evening was the showing of THE AMERICAN CINEMATOGRAPHER'S prize-winning Kodachrome travel-film, "Beyond Manila," an unusual 3-reel picture filmed in the Philippines by W. G. Hahn of Baguio, P. I. Both in subject-matter and camera-treatment the film proved the high-spot of an interesting evening.

India Resumes Activity

At the Third Annual Meeting of the Amateur Cine Society of India, held in 1940, the members decided that because of wartime condition's the Society's activities should remain in a state of "suspended animation" for one year. At the Fourth Annual General Meeting of the Society, held this spring in Bombay, the Emergency Committee of this normally vigorous Club recommended a resumption of Club activities.

The first regular monthly meeting after the resumption of Club activities was held in Bombay and featured talks by Messrs. G. Quiribet and C. W. Dack

of Kodak, Ltd., and the screening of several pictures.

Long Beach to Sponsor Documentary Show

The August 6th meeting of the Long Beach Cinema Club was "Gadget Night," and proved so successful that the members asked that at least one gadget be shown or demonstrated at all future meetings. The screen fare included a wedding picture, "The Old, Old Story," filmed in Kodachrome by Pat and Nora Rafferty and presented with a musical accompaniment, and a vacation picture filmed in the Mammoth Lake country by Forrest Kellogg.

Robin Hadley gave a report on the latest Directors' Meeting concerning arrangements being made by the Club to sponsor a showing in a professional theatre of a programme of outstanding documentary films. This showing will be at Long Beach's Egyptian Theatre on Sept. 23rd, and the programme will include the Government Documentaries, "The River," "The Plough That Broke the Plain," "The Harvest of the Land," "The Power and the Land," and two unusual MGM shorts, "Quicker'n'a-Wink," filmed in super-slow-motion photography (over 2,000 frames per second) and "Third Dimensional Murder."

Gadgets necessary for back-projection were demonstrated by President Mildred Caldwell, and three very novel home titling outfits were shown by Harold Hillinger, Ted Phillips and Harold O'Neal. The remainder of the evening was spent in examining gadgets brought by the rest of the members, and refreshments were served.

Highlighting the August 20th meeting was a Kodachrome film, "Tins of Tuna," made by Mildred Greene and showing all the processes in the Harbor's biggest cannery. C. Don Hughes, of Amarillo, Texas, exhibited his Kodachrome film "Cherry Blossom Time in Washington D. C." "Holidays in Cuba," a Kodachrome film with very clever titles, was shown by Dr. Harold Brooks, and "Through the Window Pane," a film loaned from Hollywood, was also screened.

RAYMOND FOSHOLDT,
Secretary-Treasurer.

L. A. 8's Have "New Deal Nite"

The August meeting of the Los Angeles 8mm. Club was held under the chairmanship of Treasurer and staunch Democrat Bill Millar, and programmed as "New Deal Night." On taking over the chair, new-dealer Millar instructed the Secretary to read Millar's specially-prepared version of the minutes of the previous meeting, which was riotously ordered revised by unanimous vote of all members mentioned. A letter from member Lewis Reed, now a Naval flyer

(Continued on Page 449)

16
MM

Home Movie Previews

8
MM

THE GREEN ALBUM

Costume "home movie," 300 feet 16mm.

Kodachrome (sound speed.)

Filmed by Miss Agnes Marx.

The maker of this film sent it in with the explanation that it was the result of her first experiments with filming Kodachrome under artificial light and with personally-made titles. If so, it has all the earmarks of a graduate student's thesis, for it is one of the best examples of Kodachrome lighting and of good titlemaking we've seen lately. Every inch of the film is technically excellent. The interiors are unusual among amateur-made Kodachrome interiors in that the whole of every scene seems adequately lighted, with no falling off in exposure values in distant corners, or on dark furniture or woodwork. The generally light-colored walls of the room used for most of the scenes no doubt helped, but careful attention to lamp-placement and illumination-values was chiefly responsible for this excellent technique. There are two effect-lighted scenes with silhouetted areas used to frame the main action of the scene—one when "Dad" brings the trunk from the store-room, the other in the scene showing the amazing abundance of petticoats worn forty years ago. These are extremely effective pictorially, and well done technically. In some of the other scenes a trick of professional lighting was used to good advantage: concealing lights behind people or furniture to illuminate the back-wall and make the foreground action stand out more clearly. This deserves hearty commendation.

The titling is, as we've mentioned, uncommonly good. The opening title makes very effective use of wooden block letters against a suitable background. The other titles employ white letters, apparently of the metallic stick-on variety, against a solid green background. This makes an excellent color combination; and one which, unlike the blue and white combination so commonly used, should stand up quite well in the rather unlikely event today's Kodachrome should fade as did the earlier emulsions. The lighting was even, and the lamps placed effectively to give relief to the three-dimensional letters.

From a picture standpoint, however, some suggestions could be made. The film is technically excellent, and has a

reasonably interesting subject-idea—that of a couple of young women exploring Grandmother's trunk from the attic, and trying on the "gay 90's" clothes it contains. But to the general audience, there is a certain tendency toward dragginess. This could be greatly improved by the use of close-ups, especially immediately preceding and following the many spoken titles. A good example of this is in the scene where it is suggested the trunk is in the store-room, "—so let's go see." With the title cut into a long-shot, either the young woman or the little girl could have spoken it. Therefore we would suggest making a close-up of the young woman speaking, cutting in the title, and returning to a close-up of the woman finishing speaking. This could be followed by a medium close-up of the little girl, expressing pleased excitement, and starting to stand up quickly before the scene is cut. In the middle of the movement cut to the long-shot, just at the point in the latter where the little girl is seen rising.

The film could use a number of other close-ups—as, for instance, one of the women calling "Dad" to help with the trunk, another of him hearing her call, and so on. Close-ups of the woman and her friend as they admire each other's appearance in the forty-year-old styles would also be helpful. We'd be inclined to suggest, too, deferring the revelation that the woman is trying on the clothes until after her friend arrives. This could easily be done by showing her only in close-ups as she makes the phone call—close-up of her hand dialing the number, close-up of just her face as she talks. Then, after the phone talk is over, cut or better fade to the friend arriving—taken from outside the door—and cut to a shot toward the door, as her friend opens it clad in "gay 90's" attire, after which it would be logical to cut to a surprised close-up of the visitor, and so on. And as the two young women try on the clothes, it would be effective to intercut close-ups of the little girl as she watches, registering surprise, amusement, etc.

We would also suggest that it was sometimes difficult to be sure whether some of the titles were intended as spoken or descriptive titles. Therefore it would be well to do as was customary in silent pictures, and set off all spoken titles by quotation-marks.

DEMOCRACY

Documentary, 50 feet 8mm. black-and-white.

Filmed by Joseph F. Hollywood.

This film, a companion-piece to "Mr. Hitler Never Loses," by the same filmer and reviewed in last month's issue, is

another unusually clever example of turning the home-movie camera to the task of setting forth on film one's political ideas. This film is what might be called "a Republican's-eye view" of last fall's election; as such, its sentiment is somewhat dated and not wholly in keeping with the events and sentiments of 1941. But its technique is still powerful; it makes one wonder why more amateurs don't try using their cameras as a means of expressing their views on public questions.

Technically, the picture is a clever combination of animation, superimposed title technique, and live-action close-ups. It is excellently done in every respect. The defeated Presidential candidate is shown in semi-silhouetted long-shots, with pertinent quotations from his speeches superimposed in title-form. As in many a Hollywood (California!) movie, unquestionably a "double" enacted this part, a person with just enough physical similarity to suggest the desired character, and with his real identity concealed by the semi-silhouetting lighting. The effect is extremely good. The winning candidate is indicated by a simple cut-out of a pair of spectacles and a long cigarette-holder superimposed on titles quoting this individual's speeches. The result, again, is to perfectly suggest the individual intended. The contrast between the two methods of presentation is also a clever way of indicating the filmer's estimate of the two actual personalities.

The live-action scenes, shown usually in close-ups, indicating audience reaction to the two speakers, the outcome of the voting, etc., are also capably handled. The cutting is, as was the case with "Mr. Hitler Never Loses," more than ordinarily capable. The film builds to a definite climax, the tempo, as established by both action and cutting, building swiftly and effectively. While perhaps a less striking example of film-craftsmanship than "Mr. Hitler Never Loses," the film is none the less a technically fine and dramatically compelling piece of work, which presents its ideas more favorably than many a professional epic.

All told, both of Mr. Hollywood's productions make one wonder why, since the silent film is such a forceful means of expressing even abstract ideas, more users of 16mm. and 8mm. cameras don't try to use their cameras that way. And seeing what this filmer has done in this direction while employing virtually no physical resources which couldn't be available to any amateur, we can commend it to other movie-makers. Almost all that is really necessary is a basic idea, visualized. But ideas, we'll admit, aren't as easy to get as Mr. Hollywood's films make them seem!

HERE'S HOW

Color Titles

Working for the New York "Herald-Tribune" as a printer, I have facilities for almost any style of type I care to use, and I print my own titles for my 16mm. movies. I'm fond of titling, and I take almost more pride in printing and shooting titles with different types and backgrounds than I do in making the actual movie. Titling my 4,800-foot Kodachrome picture of the New York World's Fair I used light-yellow lettering (12-point Memphis hold type) on good blue paper. I printed the actual lettering in white ink, and then went over it carefully with light-yellow Speed-hall lettering ink on a brush in order to get a solid color against the blue. For I found that when I print any light colors (sometimes even dark colors) on colored paper, the ink somehow does not give a very definite color-contrast; the color of the paper seemed to come right through the ink. On this particular job, I managed all right with the brush-over method mentioned, but you can't always use the same family of type for all films, and other type-faces can't be hand-retouched that way on account of having very thin serifs, etc.

I have tried to print with white ink on black paper of both rough and glossy finish, but the whites weren't clear. This naturally prevented me from doing double-exposure work. Even printing with opaque ink on acetate did not give a really satisfactory result, as the metal type seemed to give a porous impression and slightly smeared the edges of the letters.

Looking at the titles in Technicolor movies, I notice that the whites, pastel colors and solid colors, regardless of the type-face used, seem to stand out very distinctively. On many occasions a very pleasing shading effect is combined with the wordings of credit-titles, on either moving or still colored backgrounds.

How is this done? Can you tell me, and tell me what type of ink, printing, etc., is used?

George Tasso

Very few, if any, professional titles—in major feature pictures, at least—are printed. Instead they are hand-lettered, like extra-fine showcards. This of course gives much the same opportunities as you had when you went over your lettering with a brush. And since most professional titles are lettered on really large cards—from 14x20 up to three feet or more wide—the title-letterer's job is much easier. The shading to which you refer is also drawn in by hand.

In our personal title-making we've been lucky enough to have a friend connected with a print-shop which specializes in printing fine Christmas cards for a large greeting-card firm. In this shop an unusually wide variety of colored inks and colored papers are naturally available. While we're not expert

printers, we observed they seemed to get the best results using color-combinations that offered a strong contrast, and on matte-surfaced papers, with perhaps a somewhat heavier application of ink than would be the case for ordinary black-and-white printing.

In making titles with white letters on a black background for black-and-white pictures or double-exposure titles in either black-and-white or color, we had much the same experience you did: the ordinary white ink didn't show up any too well. But we were able to get around this by using a dull matte-surfaced black paper and silver ink. This gives a highly reflective lettering against an absolutely black background. Even in color, these letters photograph white and stand out well. We've tried two types of ink: one prints directly in a silver color, and is fair; the other prints a sort of grayish and is dusted with silver powder while the ink is still tacky. When the ink has dried, the surplus powder may be gently blown off. This proved more satisfactory. When you come to shoot titles made this way, we'd suggest that you keep a small rubber-bulb syringe handy to blow away any little flecks of loosened silver powder which may settle on the black surface. From our experience, too, we'd warn you against trying to use either a rough-surfaced paper or a glossy-surfaced paper for this. The rough paper doesn't give a very clear impression, and the silver powder scatters over its surface and clings there; it's almost impossible to dislodge. The glossy-surfaced paper reflects your lights unless they are placed very carefully, and seems to pick up every tiniest flake of dust in the air, which naturally stands out extra clearly against the black background. But a smooth matte surfaced black paper is ideal in every respect: it takes the impression well, stays clean, and is so completely non-reflective that it gives good contrast in straight titles, and is completely invisible in double-exposed titles.

Back-lighting Color

I notice all the instructions for shooting Kodachrome say always to have the light behind you. But when I go to the theatre to see a professional Technicolor movie, I notice that repeatedly the exterior scenes are back-lighted. Is it impossible to do this in Kodachrome, too?

Robert Eisenbrey

The instruction-books advise against back-lighting Kodachrome because that is much the safest course: Kodachrome (or any other color-process) has a much narrower exposure-latitude than does black-and-white, so ordinarily in a back-lighting there isn't enough latitude to take care of the difference in illumination on the shadowed face and the strongly highlighted back-lit portions.

For many years one of the most important services THE AMERICAN CINEMATOGRAPHER has performed for its readers has been the answering of technical questions about all phases of amateur and professional movie-making. These questions are usually answered by individual letters, to permit going into the necessary detail. However, in response to many requests, we also publish, in abridged form, some of these questions and their answers which we believe may be of interest to other readers. THE EDITOR.

If the shadow is correctly exposed, the back-lit area will be badly overexposed; if the back-lit area is correctly exposed, the shadowed part will be badly underexposed. The same thing would probably apply in Technicolor: but the professional cinematographer can equalize his exposure-values by throwing more light into the shadows, by using either reflectors or artificial "booster" lights. "Boosters" are usually impractical for amateur work, but you can use reflectors—and if you do, you'll find you can make back-lit Kodachrome shots as effectively as the professional can use the same lighting in Technicolor.

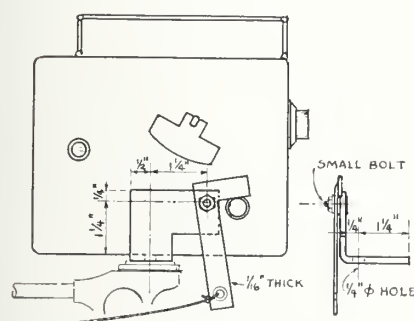
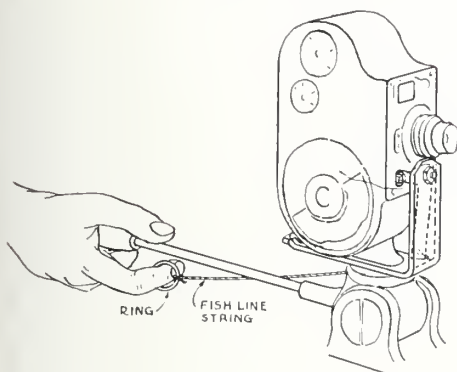
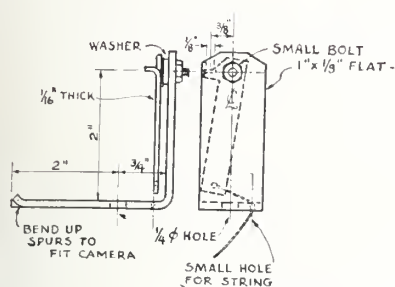
Dissolving Positive Titles

I've been told you could make lap-dissolves on direct-positive titles by simply opening the lens, instead of closing it, when you wanted to fade out on the first title, then rewinding the film and starting the second title with the lens wide open, then making the fade-in by closing the lens down to the desired stop. I tried it and it didn't work. Is it possible to make dissolves on positive titles?

E. V. Chapin

It is really simple: just make your dissolves in the usual way, closing the lens down to make the fade-out part of the dissolve, rewinding and making the other half by opening the lens. In this way, on the first half of the dissolve, your film successively receives less and less exposure, and if it were developed then the dark background would slowly fade from black to the clear white of unexposed film. Rewinding and reversing the process, the same thing happens as you fade in on the second title. With these superimposed, the density of the background remains unchanged, as where the first title fades out, the second, accurately superimposed on it, fades in, and the background always gets the same total of exposure. The lettering, on the other hand, photographing white, will fade normally as the photographically dark background which gives it contrast, fades out and at the same time the background of the second title, superimposed, comes in and naturally occupies much of the spaces previously occupied by lettering.

THE IDEA EXCHANGE



Camera Release

Have you ever needed an extra hand while using your camera on a tripod? Here's a solution which permits one hand to operate both the pan-head and the camera-release, leaving the other free to do whatever is necessary, such as working a fader, or the like. One finger of the hand controlling the pan-handle is slipped into a ring which is tied to a string attached to a lever mechanism which moves the camera-release.

The sketch shows the mechanism as applied to a Bell & Howell Filmo 8 and also to an Eastman Model 20 Cine-Kodak. However, the same principle can be adapted to almost any type of camera.

The parts can be made out of an angle-iron and a corner-brace of the type used to reinforce screen doors, which can be bought for a few cents at any five-and-ten-cent store. The string used should be a piece of fishing-line or other similarly strong, flexible material. The ring at the end should be of a size such that it will slip easily over your finger. The mechanism should operate easily, so as to obtain a "feather-touch" control.

The same gadget can be modified for use as a remote-control arrangement too. Simply tie a small weight, such as a good-sized fishing sinker, to the end of the string. Then balance the weight on a suitable supporting mount on the tripod-head. Tie another bit of string to the weight, and carry the other end of this string into the scene with you. Then all you need to do is twitch the string so the weight is pulled off its support. It then trips the camera-mechanism by pulling the string which operates your release.

PAUL W. CRAMER

Lighting Titles

Unless you use one of the more expensive titlers with built-in lighting units, one of the most troublesome and time-consuming tasks in title-making is getting your lights set up to illuminate the title. The lighting must be flat and uniform, and for consistent results should always be the same intensity—which means the lights should always be in the same position every time.

Here's a simple gadget which can be added to almost any of the popular type-writer-letter titlers, like the Eastman, which will enable you to put your lights on at the same place every time, with no trouble.

Simply get a piece of 1-inch board about three inches long by two or two-and-a-half inches wide. Mount this standing on edge (with the 2½-inch measurement vertical) beside your camera on the base of the titler. You can fasten it permanently to the titler-base by drilling two small holes in the metal of the base, and inserting two wood screws through these holes to hold the wooden block in place.

In use, just snap your clamp-on Photo-flood reflector to this block, and swing the light over so it is just above the lens of your camera, and with the reflector shading the titler's supplementary lens. This, with most clamp-on reflectors, will give you a perfectly even illumination all over your title field.

Since the lamp is always in the same position, you don't have to worry about exposure. If your tests have shown you that with the film you use and a No. 1 Photoflood an average title will be correctly exposed at, say, $f:5.6$, from then on whenever you make titles all you have to do is clamp your lamp on the block, set the lens at $f:5.6$ —and shoot.

If you're one of the prosperous, well-equipped fellows who owns a "Dinky Inky" or similar small spotlight, you can work the same idea. Extend the wooden block higher, and drill a hole through which you can insert a ¼-inch bolt which will screw into the tripod-socket on the base of the "Dinky's" mounting-bracket. Turning the spotlight lamp over on its side you can position it just above the lens. Then focus it

THE IDEA EXCHANGE is just what the name implies—the place where 16mm. and 8mm. cinefilmmers can swap moviemaking ideas with the other fellow. The little improvised tricks you used to solve one of your cinemaking problems may be just the answer to something that's perplexing a fellow filmer—and one of his ideas may solve a problem for you.

To help out this exchange, THE AMERICAN CINEMATOGRAPHER invites you to send in descriptions of gadgets, tricks, shortcuts and methods you have used in any phase of home movie work—shooting, editing, titling, projecting, processing, and the like. If possible, send along a photograph or sketch to help make your description more clear to the other fellow. For every idea published in THE IDEA EXCHANGE, we'll give you two projection-reels and cans or their equivalent in equipment or cash. Really unusual ideas will receive higher awards. When sending in your idea, let us know whether you shoot 8mm. or 16mm. to facilitate sending you the right equipment.

down till the spot-beam just slightly more than covers the title-area, and shoot. This side-burning business isn't too good for the "Dinky's" bulb, but for short periods it won't hurt seriously.

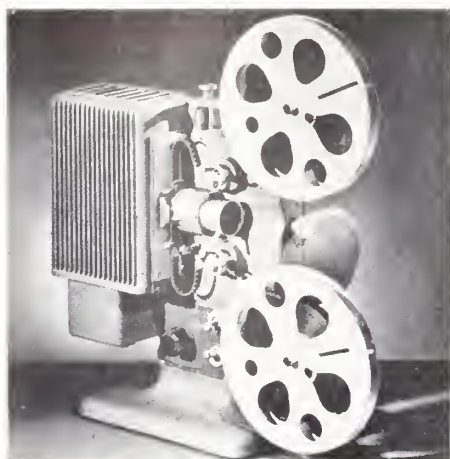
ROBERT W. TEOREY

Sunshade For Cameras

Shooting in a back-light, did you ever try to shade the camera's lens with your hat or hand while you made your scene? Then you'll appreciate this sunshade gadget! Go to your favorite auto-supply store and buy one of those sun-visors that is mounted at the end of a metal rod. Take a small sheet of brass and drill a hole in it so that the brass sheet can fit between your camera and tripod-head, with the tripod-screw passing through the hole, and about an inch or so of the brass plate extending beyond the camera. To this projecting end solder a block of brass a little over an inch square. Mount the end of the sunshade's supporting rod in this block; just how, depends on the type of sunshade you buy. Some of them have a nice swivel-mounting on that end, so all you'll have to do is attach this to the brass block. Others may not have this swivel, and your best bet will be to make one by taking a smaller piece of brass, cutting a groove in one side to accept the rod, and drilling a hole through it (at right angles to the groove) through which you can run a bolt to bolt it to the base-block at any desired angle.

This way you can swing the visor out
(Continued on Page 449)

...THE SHOWCASE...



Kodascope 8-33 Projector

Bringing improved performance, appearance and quality to the moderate-price 8mm. projector field, the new Kodascope 8-33 projector is announced this month by the Eastman Kodak Company as replacing their previous moderate-price models, the 8-50 and 8-20. Of die-cast metal construction, compactly designed and finished in gray wrinkle enamel, the new projector is a belt-driven, 500-Watt unit of 200-foot reel capacity.

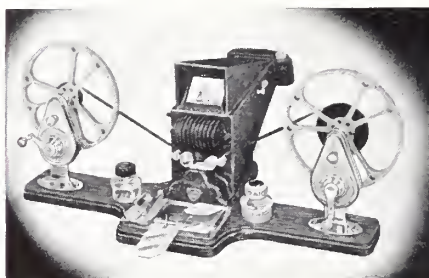
The optical system consists of a one-inch $f:2$ Kodak Anastigmat projection lens, highly corrected to give excellent definition at all normal projection-distances, an easily removable condenser lens, and a spherical collection mirror behind the lamp. The projection-lens is fitted with a small arm for convenience in focusing.

The light-source regularly supplied is a 500-Watt line-voltage T-10 biplane-filament lamp. However, either 300-Watt or 400-Watt globes may also be used. Cooling is provided by an efficient ventilating fan mounted directly on the end of the motor-shaft, which blows air directly upon the lamp, exhausting through louvres in the top of the lamp-house.

Centralized control is provided by grouping the motor-switch, speed-control and lamp-switch on a single panel at the right of the projector. Lamp and motor circuits are so arranged that the lamp will not light unless the motor-switch is closed, but may be turned off for rewinding. An automatic safety-shutter drops into place between condenser and film-gate if the speed of the projector becomes too low. The motor operates on A.C. or D.C., 100 to 125 Volts, 25 to 60 cycles.

A positive framing device, located on top of the projector, moves the film with respect to the gate, making it unnecessary to alter the projector's tilt following framing. Both the gate and the pressure-pad are finished in highly-polished chromium plate. A catch holds

the film-gate open for easy threading and cleaning. The lamphouse is removable for easy accessibility to lamp and condenser. A convenient carrying-handle is cast as part of the projector-housing, and a screw-type tilting adjustment is located in the base. Take-up and rewind are driven by external spring-belts, and rewinding, as in the previous lower-priced Kodascope eight projectors is done by removing the take-up belt from its pulley and connecting the rewind belt to the upper (supply) spindle's pulley. Reel-arms are designed to accept 200-foot reels. A sturdy, fabric-covered carrying-case for the projector, a spare lamp, and two 200-foot reels is available.



Craig 8mm. Enlarg-O-Editor

Filling an important need, the Craig Enlarg-O-Editor, a combined motion-viewer and frame-enlarger for 8mm. film, is announced this month by the Craig Movie Supply Company, of Los Angeles. The device consists essentially of the well-known Craig 8mm. Projecto-Editor to which has been added a completely new optical system and a built-in camera-back carrying standard No. 127 rollfilm upon which the frame seen in the viewer-screen is projected to make a still-picture enlarged negative which in turn may be used to make either contact prints $1\frac{5}{8} \times 2\frac{1}{2}$ in. (4×6.5 cm.) or enlargements.

In use, the film is passed through the motion-viewer in the usual manner until the desired frame of the chosen scene is found. Then throwing a small lever stops down the projection-lens to an extremely small aperture assuring maximum definition, and the exposure is made by turning a convenient knob which drops the mirror normally used to reflect the image onto the viewing-screen, and transfers the image instantly to the negative film in the built-in camera at the back of the unit. Releasing the knob returns the mirror to its normal position and stops the exposure.

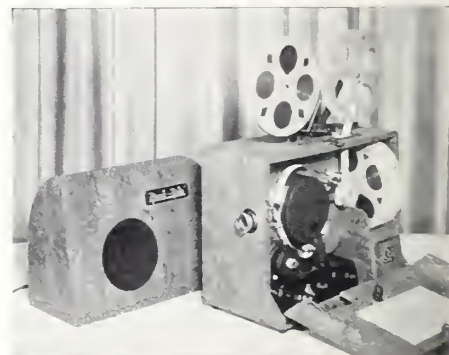
During the manufacturer's experiments members of THE AMERICAN CINEMATOPHILIST's staff were privileged to make practical tests with the first Enlarg-O-Editor built. The results were in every way satisfactory, as may be seen by reference to the illustrations appearing on Page 279 of the June, 1941,

issue, all of which are frame-enlargements made from 8mm. black-and-white film with the Enlarg-O-Editor and reproduced from 4×5 -inch prints. The 8mm. frame-enlargements on Page 283 of the same issue were made from Kodachrome originals with the same device. Our experience has been that Verichrome or Plenachrome rollfilm is the most satisfactory material to use for this purpose, with exposures ranging from 15 to 20 seconds, depending on the density of the frame being enlarged.

The DeLuxe Enlarg-O-Editor, complete with Craig Senior Splicer, Senior Rewinds, Film-cement and base, retails at \$59.50.

Bolex Vignetter for All Cameras

For some time there has been a demand for an iris vignetter which closed completely for use in making fades. Bolex-Paillard has just introduced an accessory of this type, designed not only for use with Bolex cameras and the Leitz Hektor Rapid 27mm. $f:1.4$ lens, but adaptable to all other 1-inch lenses on any other type of camera. As a means of making fades and (if the camera has a back-wind) lap-dissolves, this accessory should be a useful addition to any filmer's outfit. Price is \$10 for the Leitz lens, and \$1.50 extra for adapters for other lenses with screw-in mounts to fit Bolex, Filmo, Victor, Keystone and other 16mm. cameras.



Movie-Mite Sound Projector For Home Use

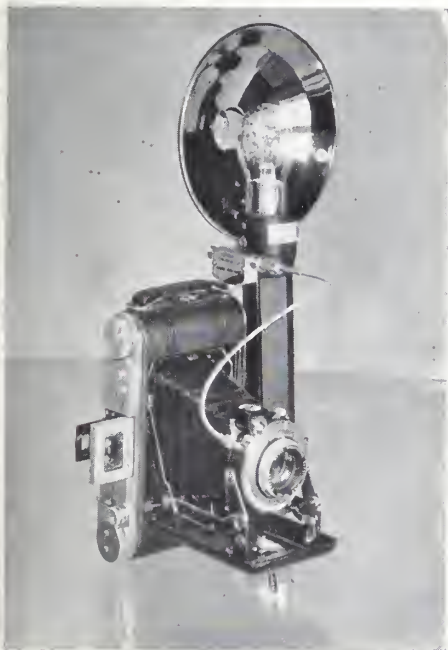
The Movie-Mite Corporation, 2411 East 15th Street, Kansas City, Missouri, announces a new, light-weight, 16mm. sound-on-film projector designed especially for use in the home. The new Movie-Mite, known as the Model "60," was developed around the basic model which was conceived and is being used as the answer to industrial screening problems. Identical amplifiers, mechanisms and sound systems are incorporated in both models. The well known Movie-Mite features of simplicity, ease of operation and portability have been

retained and new features added. Among these are: a finer case, tone control and speeds for both silent and sound film operation. The projector can be used on either AC or DC and is contained in a single case measuring approximately 8x12x15 inches, weighing but 24 pounds—only slightly larger than a portable type-writer. The case accommodates, besides the mechanism and amplifier, cords, speaker, an empty take-up and three 400-foot reels of film. The projector retails for \$169.50.

Concurrent with the presentation of the Model "60" Movie-Mite to the trade, the Movie-Mite Corporation announces that at this date immediate delivery can be made on all Movie-Mite models. Need for supplies and materials was anticipated and the projectors are coming off the assembly lines in quantities great enough to supply the present demand.

Radiant Screen Booklet

The Radiant Manufacturing Corporation of Chicago, Ill., manufacturer of Radiant "Hy-Flect" Projection Screens, has just issued a new folder, entitled "For Clearer More Brilliant Projection—Radiant, the Hy-Flect Screen." It contains full descriptions, sizes, types and prices of the complete line of Radiant Screens for home, business and educational uses.



Kalart Automatic Speed-Flash

A new Automatic Speed Flash has just been announced by the Kalart Company, largest manufacturer of flash synchronizers and lens-coupled range finders. Fully automatic in that it requires no winding or cocking before use, this synchronizer is of the mechanical type. It is also a universal Speed Flash, fitting practically any type of camera having a cable release socket. It can also be used with miniature focal plane cameras by the addition of a simple adapter.

Extremely compact in size, measuring

only 1½ inches in length and ½ inch in width, the Automatic synchronizer unit itself snaps into the jack terminals of the battery case, requires no cable release and eliminates all wires. An armored, flexible coupling connects the synchronizer to the shutter. The coupling is adjustable for variations in shutters.

In operation you simply press the cushioned release button, setting in motion the inertia rotor which controls the timing cycle, the same basic principle of the famous Kalart Micromatic Speed Flash. Synchronization is unaffected by varying finger release pressure. The Automatic unit may be used with either the Kalart Master or Compak battery cases. With the Kalart Master Battery case and reflector, the Automatic will retail at \$18.50 complete. With Compak battery case-reflector combination the price is \$14.95. The synchronizing unit only is \$10.

Kodak Minicolor Prints

Enlarged paper prints in full color from 35mm. and Bantam Kodachrome transparencies at sensationally low prices are produced by the Minicolor Print Service just announced by the Eastman Kodak Company. Kodak Minicolor Prints are enlarged from Kodachromes in 2x2-inch mounts with standard central openings, and are available in two sizes. The "2-X" size is approximately 2¼x3¼ inches, with rounded corners and no margins, and is priced at 75¢ per print. The larger "5-X" size affords a print 5¾x7-4/5 inches, and prints are returned in mounts—for horizontals 8¾x10¼ inches, and for verticals, 8¾x11-9/16 inches, with the central picture-area in either case measuring 5x7½ inches. The price of these "5-X" Minicolor Prints is \$3.50 each. Judged by samples of both sizes which we have seen, the quality of these prints, if made from a good original Kodachrome transparency, appears to be excellent. The "feel" of the print, especially in the smaller size, is similar to that of a high-quality playing-card, strong, attractive and resilient. The print-support or base, however, is stated not to be paper or card, but pigmented cellulose acetate which we suspect may be coated with a multilayer monopack emulsion similar to Kodachrome. The makers specifically state that at present the dyes used, while as stable as possible, may in time fade or alter, and the prints therefore cannot be replaced or warranted against change in color. They should be protected from the direct rays of the sun.

New Kalart Range-Finder

The Kalart Company announces its new model "E" Lens-Coupled Range-finder which will supplant the present Model "F." The new-model range-finder embodies the experience gained in the manufacture of more than 50,000 range-finders. It will fit all Speed Graphic cameras, Watson Press Cameras and most film-pack cameras.

Streamlined in appearance, the new model has a bigger and brighter image

which will enable photographers to focus accurately even under unfavorable light conditions. The range-finder is of the superimposed-image type.

Close working distance has been increased from 3½ feet on the new shorter focal-length lenses which will be of prime importance to those doing close-up work and portraits. Mechanically the new range-finder will have all adjustments internally, simplifying installation and adjustment. The range-finder is adjustable for all lenses from 10.5 to 16.5 cm. Adjustment permits owners to compensate for tolerances in focal-length inherent in every lens.

The new range-finder is stated to have been made practically shock proof by ingenious suspension of the synchronizing mechanism.

Price of the Kalart range-finder remains at \$24, plus nominal installation charge.



Bell & Howell Bows Minislide Projector

Featuring forced ventilation and a new system of lamp-mounting, the Filmo Slide-master projector for 35mm. minicam slides in 2x2-inch glass or paper mounts, marks Bell & Howell's entrance into the minislide projector field.

Though extremely light and portable, the new projector seems clearly intended for use in fields where maximum brilliance or extremely large screen-sizes are wanted. It makes use of a newly-designed "base-up" lamp which, unlike most projection-globes, is designed to burn in a base-upward position. This, according to Bell & Howell engineers, permits several advantages. The globe is slid more easily into the top of the lamphouse, and in addition, burning in its inverted position, the blackening deposit formed during operation of the lamp is not deposited on the side of the globe, where it would reduce light-transmission, but is carried upward and deposited on what would normally be the base. Thus it is claimed the side-walls of the new lamp are kept deposit-free for the entire burning life, permitting full illumination to reach the screen at all times.

The new lamp retains the familiar Bell & Howell pre-focusing, pre-aligning

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Enlarging 16mm.

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color printing routine.

Sound can of course be handled along with the picture. Like most laboratories of this type, Technicolor does no sound-track recording, processing or enlarging, only printing the final sound-track negative in proper synchronism with the picture on the final composite print. Therefore Technicolor requires only a satisfactory 35mm. sound-track, properly cut to footage and matched to the picture. The original recording can conceivably be either direct 16mm. (as in synchronized dialog) re-recorded to make the necessary 35mm. track, or a direct 35mm. recording. Technicolor does not attempt to enlarge 16mm. sound-track to 35mm.; and this would probably be an unsatisfactory method at best, since the losses in definition and resolving power, unavoidable in the enlarging, would almost certainly be far greater than would be involved in re-recording a good 16mm. track to 35mm. For theatrical use, however, a direct 35mm. track would probably be the best, as the frequency-range in direct 35mm. recording and reproduction is still considerably greater than that possible in 16mm.

As has been mentioned, Technicolor is at this writing turning out release-prints on the first professionally-made theatrical short-subject photographed in 16mm. Kodachrome for 35mm. Technicolor release. The film is a Warner Bros.' short-subject entitled "King of the Turf," photographed by L. William O'Connell, A.S.C., and produced by Gordon Hollingshead and Ira A. Genet, both of whom have been most active in encouraging the development of Technicolor's 16mm. enlarging process. Two other 16mm. shorts are now in preparation by the same producers, with more almost certain to follow if these first ones prove as successful as anticipated.

For the present, Genet and Hollingshead have no intention of supplanting conventional 35mm. production with 16mm. enlargements. However, there are certain types of subjects which they feel can be filmed to much better advantage using 16mm. equipment and Kodachrome; some, in fact, which can only be filmed successfully in 16mm. For example, one of the shorts now under way is on diving, and filmed almost entirely in slow-motion, using a "Golf Special" Filmo camera which operates at a speed of 128 frames per second. Though Technicolor has specially built and operated cameras for high-speed photography they do not operate at quite this high rate of speed. The present 16mm. subject is believed to be the first slow-motion subject ever filmed in color; certainly the first to be filmed by any commercial three-color process.

There are also certain types of documentary, semi-news and novelty subjects which can be filmed successfully using 16mm. equipment, but would be out of the question with the bulkier 35mm. black-and-white or color equip-

ment. A film, for example, like "Sailplane," the film on gliding described in the February, 1941, issue of *THE AMERICAN CINEMATOGRAPHER*, absolutely could not be made in its present form with 35mm. equipment, the weight and bulk of which could not be carried in a one-place glider—much less placed on a twelve-foot bracket on the fuselage or wing of the glider as was possible with the 16mm. equipment used.

Genet states that while his present policy is naturally to keep the production of 16-35mm. Kodachrome-Technicolor shorts as much as possible within the Warner organization, with the photographic work under the direction of proven professionals like O'Connell and others, there is no reason why meritorious 16mm. subjects should not be purchased from free-lance professionals, commercial filmers and advanced amateurs who are willing to take the precautions already described, and to safeguard their 16mm. original by editing from a work-print rather than the original. Such films would, of course, have to be not only of sufficiently high technical quality to be suitable for enlargement, but built around subject-matter of sufficient interest inherently and in treatment to enable the picture to compete with the best professionally-made 35mm. shorts.

The importance of this new development to the industrial film field can hardly be over-stated. It is well known that today a sizeable number of industrial and commercial films are being made in 35mm. rather than the more economical 16mm. simply because the sponsor has outlets for one or two prints which demand 35mm., though the bulk of the release is necessarily in 16mm. In such instances, 35mm. black-and-white is very often used for reasons of economy, even though for the 16mm. portion of the release color, in the form of Kodachrome, would enable the advertiser to tell his story more effectively. To such industrial producers, the possibility of making satisfactory 35mm. enlargements in Technicolor from a 16mm. Kodachrome original, and having his full release, both 35mm. and 16mm. in color, offers a revolutionary inducement.

What the effect of this development may be on the 35mm. theatrical field cannot be foretold with accuracy. As Genet and Hollingshead are proving, 16mm. offers definitely interesting possibilities in the production of short-subjects and novelty films. It may, too, offer independent producers of lower-budget features a worthwhile opportunity. For major-studio feature production, the still superior quality of direct-35mm. Technicolor is naturally obvious. But for these other fields—short-subjects, commercial films, and some types of documentary and educational subjects, the possibility of enlarging good 16mm. Kodachrome to 35mm., retaining the color and quality of the substandard original, truly is 1941's most sensational development, and one which offers tremendous promise. **END.**

British Amateurs Buying Bomb

The Institute of Amateur Cinematographers (London), following the lead of other more prosperous clubs and groups in England which have raised funds for presenting "Spitfires" to the R.A.F., is reported raising a fund to purchase a bomb to be presented to the R.A.F. by Britain's amateur filmers for delivery to Berlin.

Three-Dimensional Meter

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Kodachrome, in not only still-cameras and 16mm. cine-cameras, but 35mm. studio cameras as well.

"Then for the final and acid test, I employed the new meter throughout my latest MGM production 'The Chocolate Soldier.' This production gave the meter an unusual range of tests, for it was an elaborate musical, with photographic conditions ranging from big musical and chorus numbers with high-key lighting to normal, intimate action and some heavy effect-lightings. The musical numbers were particularly interesting photographically, for despite the fact they were stage numbers and the camera was constantly moving on dolly or boom, I did not give them a flat 'stage' lighting, but used a more pictorial cross-lighting.

"The technicians and executives at the MGM laboratory have been kind enough to pay me many compliments on the uniformity of the negative I turned out on this picture. Some of them have said it was among the most uniform negatives they have ever handled. While I have not as yet seen a complete cut of the picture, I am told that the entire footage prints within a range of two or three printer-lights.

"As I say, I used the meter religiously throughout the picture. Of course there were times when my judgment and the meter disagreed. I would say to myself, 'This meter can't be right. I've been photographing pictures for more than twenty years, and I *know* that light is too hot or too dim. Even if the meter says differently, I'm going to change that light.' But whenever I did—when ever I failed to follow the meter exactly—I found I was wrong. My judgment, rather than the meter's reading, was off.

"Until I made this test, daily checking my negative against the meter's performance, I don't think I'd realized quite how much the test system of negative development can help the cinematographer. If he is a bit under or over on his exposure-level or contrast-balance, the tests show it, and his negative can be given special development to compensate for it. But with a meter as accurate as I've found this one to be, this problem is minimized if not completely eliminated. If one works under the test system, the laboratory's task is easier for lighting can be held so uniform the tests will all show the negative can be given strictly normal development. If one works with strict time-and-temperature processing, he can

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EASTMAN negative films—in their respective fields—faithfully record the astonishing beauty of modern screen productions. In fact, the films' ability to more than keep pace has had a lot to do with the general improvement in quality. Eastman Kodak Company, Rochester, N. Y.

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for general studio use

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for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS

do so, confident that the meter will hold his exposure-values as even as the film's processing. But in either case, the cinematographer should have absolute confidence in his meter, and follow its indications unquestioningly.

"That is why Norwood is insisting that every cinematographer who uses one of these meters must first take time to make enough practical tests so that he, too, is willing to be guided completely by the meter."

The Norwood meter can be used equally well under either artificial or natural light. The method of using the meter is the same in either case: the meter is simply placed in subject position, with the hemisphere pointing toward the lens, so that it receives the same lighting as the principal part of the subject. Where this cannot be done, the meter is placed so that the lighting it receives on its hemisphere is approximately the same as that on the subject.

With reflected-light meters some conditions, such as extreme landscape longshots (such as a panorama across the Grand Canyon, or the like) require a special meter-handling technique, or the use of special calibrations on the calculator-dial which automatically give a proportionately lessened exposure. With the new three-dimensional incident-light meter, this is not necessary. The meter is simply exposed to the same type of light illuminating the landscape, and its reading, as proven by Norwood's extensive tests in black-and-white and color, will be accurate. The same is the case when haze obscures a scene.

The new Norwood "Director" meter is now going into production, and will be available with compensating masks for all types of film and processing conditions, including the laboratory standards at all Hollywood's major-studio and commercial laboratories, Technicolor, Kodachrome and other color-processes. It is understood to be the first of an extensive series of practical photographic developments to be undertaken by Norwood and his associates. **END.**

Tests

(Continued from Page 418)

can be done. The costume itself must be right. And a "test" made under the most favorable conditions—comparatively close shots which to the unthinking might seem likely to be the most revealing, will tell exactly nothing about what will appear on the screen when the number itself is being photographed.

Therefore the only thing to do is to make such tests under conditions simulating as closely as possible the conditions that you or the man who photographs the production will encounter when the number is actually filmed. It may not be so flattering to the costume, its designer, its wearer, or to your photographic skill. But it will give an accurate measure of what can be expected under the worst of actual production

conditions. And that's what the test is wanted for!

It sometimes happens, too, that a test may be made of a player—man or woman—under artificial lighting on the test stage, yet the player is to be cast in an outdoor picture. Of course today we can do a great deal to balance up a player's appearance in interiors and exteriors, with the control possible through the use of scrims, reflectors, booster-lights, and so on. But even so, natural lighting can be much more searching—much more revealing of any defects—than is the fully-controlled lighting of a glamor-lighted interior.

In such a case, therefore, the test should include not only the most favorable lightings and angles, but also harsher, less favorable source-lightings which will as closely as possible approximate the worst lighting-conditions likely to be encountered outdoors when the troupe goes on location.

In other words, tests should be approached realistically. They should show their subject not only under the best photographic conditions possible, but under the worst conditions likely to be encountered in the course of actual production. They should, in short, live up to their name, and test every conceivable possibility—good and bad—and do it searchingly. If they do that, they can prove an ever greater asset to production that we're accustomed to considering them. **END.**

Modern Resources

(Continued from Page 419)

ing the regular audience. They laid down a fixed rule that no special lighting would be permitted: if we could get our pictures under their regular lighting, well enough; if not, that was our misfortune, not theirs.

None the less, we went to the horse show. We had with us an ample supply of Super-XX film, an assortment of coated Baltar *f*:2.3 lenses ranging in focal length from 28mm. to 6 inches, and one of the 20th Century cameras, and we hoped for the best.

But when we reached our location, our hopes fell abruptly. It was an open-air arena roughly 100x200 feet in size. The illumination—for the scenes were to be filmed at night—was supplied by fourteen 1000-Watt globes strung above the field in three rows, and a series of much smaller globes far back around the top of the grandstands. For visual purposes, the illumination wasn't too bad, but for photographic purposes, it was impossible. When I went out into the center of the arena to measure the light, the needle of my General Electric meter wouldn't even flicker.

As if that wasn't discouraging enough, the ground was covered with the dark red-brown tanbark customary in a riding-arena. With such illumination (or lack of it) and such a non-reflective

background, we saw ourselves returning to the studio with beautifully blank film, with possibly here and there an occasional scene of a ghostly white horse floating about in this dark field, its red-coated rider as invisible as the invisible man.

None the less, after making a hand-test which proved reassuring, we set up our cameras and went work. After all, we reasoned, we had heard a lot of theoretical claims about what could be done with Super-XX film, coated lenses and a 200-degree shutter. Now we had a chance to prove or disprove these theories in actual practice!

When, two days later, we returned to the studio with several thousand feet of film, we weren't especially confident of what we'd see when we screened the rushes, especially as the negative received strictly normal time-and-temperature development. But the rushes—and still more, the light-tests—amazed us. Photographically speaking, every scene was usable! Moreover, the scenes were as fully-exposed as though they had been filmed under completely controlled lighting conditions: as the illustrations show, instead of printing, as might be expected, at the low end of the printing-scale, they printed well past the middle-point, ranging from light 13 to light 17—precisely the range any laboratory prefers for the best results!

The quality, gradation, grain-size and definition were another surprise to us all. We had expected—if our negative yielded anything at all printable—to get very poor quality, with a steep gradational scale, noticeable grain-structure, and very poor definition, the sort of scenes which at best would look distressingly worse than inferior newsreel clips if cut into a well-photographed studio production. The illustrations, I think, will indicate that just the reverse of this was actually the case; that—especially when setting, action and photographic conditions are considered—our scenes have a surprisingly good photographic quality.

Another thing that surprised us was the exposure-values we got in the half-lighted areas in our wide-angle longshots. Several of these, for instance, showed in the foreground some members of the audience; and instead of showing them in harsh silhouette as might be expected with the strongest illumination concentrated on the arena, we saw on the screen surprising well-rounded figure-lightings, with a reasonable amount of illumination even penetrating under hat-brims, and the like.

These particular results, I am convinced, are due only to the particularly fortunate combination of materials and equipment we employed: Super-XX film, coated lenses, and the 200-degree shutter of the 20th Century camera. But in a broader sense, I think they give a very clear indication of the point I tried to suggest at the start of this article: that we have today equipment and materials which can make possible many things

we are not as yet doing, or at least not doing completely, with what we have. And to me, at least, it indicates clearly that now we have these technical possibilities before us, we have opened the way to a new range of atmospheric and background material which heretofore we could not use because we could not photograph it successfully. Now we can; and let us hope we may make the most of it! END.

"B" Pictures

(Continued from Page 420)

that permits or even demands definite "mood" lightings—or a director who either gives you a free hand or is as willing as you are to work for pictorial effect. In that event, as I've found from personal experience on two continents, you're likely to feel more pleased with what you've done on the little picture than on the big one!

So—why look down on the "B"? It may be harder work, and bring less critical credit—but it gives a chance for artistic and technical experimentation that no imaginable amount of tests can possibly do. And in the long run, if we can learn to use program-picture assignments this way, I'm confident we can turn them even more to our advantage than the more publicized "A's," for what we learn on the "B's," working against time and scanty facilities, we can certainly put into perfected practice on the "A's," where it will bring us the bouquets no one ever thinks of handing to even the best of the "B's!" END.

Cinematographer for China

(Continued from Page 421)

processed in Eastman's Hollywood plant, Shamroy will review it and send a cabled report to Liu. This will cause a delay of little more than a week in filming most of the color, but both Liu and Shamroy feel that it will be justified, since the 16mm. color-film forms a very important part of the project, as it is to be used on a lecture-tour when Liu returns in six months.

Chief worry to Liu and Shamroy is possible difficulty with the undeveloped negative in Customs. All too often before, prying inspectors have been known to unwittingly fog valuable film by opening it for inspection, or by their occasional use of X-rays to detect smuggling. However, both believe that Liu's governmental affiliations will provide reasonable safety for the negative on this score. They're still worrying about the possibility that the film might be placed in proximity to a shipment of medical radium, the emanations of which would cause the same effect.

When Liu returns to Hollywood and his post at the Consulate, he and Shamroy will cut and edit the film and have it scored as a documentary for general distribution.



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"The purpose of this trip," he declared before leaving, "is educational. A considerable number of films have been made in the Chinese war-zone, not only by American travellers and news-reel cinematographers, but by China's own cameramen—the brave little group, analogous in a way to Hollywood's A.S.C., who have, as described recently in THE AMERICAN CINEMATOGRAPHER, made their way from the peace-time studios on the now-occupied cities, and are making both news and educational films in Chungking. But thus far, none of the films made have, to my mind, told the complete story.

And it is a great story. I don't know if my own talents are equal to such a heroic story, but I'm going to try! What I'm planning to shoot in China will in no way be either a travelog or a news-reel, but it will be a sincere attempt to present in complete detail the heroic struggle of my people for their freedom, in a way that America's free people can understand. It will not be propaganda, but a simple statement of one of the greatest factual stories being lived today.

"As I leave, I would like to express my appreciation of the cooperation I received from everyone at the 20th

Century-Fox Studios. The very practical training I had from my friend Leon Shamroy, A.S.C., will, I am sure, prove invaluable to me. It was very fine of him, too, to consider it in a measure as repaying some of the courtesies China's cinematographers there in Chungking have extended to American cinematographers who have been there.

"I want to express my appreciation, too, to the players in 'Confirm or Deny'—especially the film's co-stars, Joan Bennett and Don Ameche, who gave generously and willingly of their spare time in order to serve as models while I experimented with lighting set-ups.

"Incidentally, shooting in underground Chungking the only difficulty in lighting will be lamp placement, since the cavern-shelters are all wired for electricity."

In addition to his work in Chungking, and visits with his father, a high government official, Liu will film scenes in western Szechwan, along the Burma Road, and in China's little-known northwest country. Part of his stay in Chungking will also be devoted to discussing the possibility of augmenting China's present motion picture facilities by setting up an elaborate underground film-processing laboratory there. If this project works out as he anticipates, he will on his return to America buy the equipment for the lab, and send it on its long way to Chungking via the Burma Road, or even by plane.

In any event, Hollywood has sent this son of Free China on his way with a hearty "God speed" ringing in his ears, with heartfelt greetings to Free China's motion picture colony in Chungking, and is looking forward to seeing, some six months from now, Liu's presentation of his country's story on the screen. **END.**

Charlie Roshier

(Continued from Page 422)

you tell them that this angle or that movement is bad for the camera, they'll become so over-conscious of it that in their effort to avoid it, they'll freeze right up and give a performance much below what they really can do. The critics simply say the actor has given a bad performance; but maybe it was the cinematographer's psychological technique that was really at fault.

"Some of our modern equipment and methods have given us a remarkable advantage when we're working with players like this. For example, a few years ago I made a number of pictures with a star who had a particularly square jaw: to get the best results, it was necessary to soften or shade the front-light when she turned to certain angles, or when the camera dollyed to her in certain ways. The most effective method, I found, was to mount a special lamp on the dolly, and sit beside it with a little paddle with which I could shade the light as necessary during the action. I've no doubt it was disturbing to the people on the other side of the camera—but it was the most effective method

available then. Today, we can simply mount a "Dinky Inky" on the camera, and manipulate it by remote control through a dimmer. Your lighting-control will be equally precise—but the player will be much less conscious of it.

"And in that direction, I think, lies one of the most interesting trends I've noticed during the years I've been active in cinematography. We hardly realize it at the time, we're so close to it all: but each successive technical advance that has come along has tended in some measure to make conditions on the set more natural. When I first entered the profession, we had weirdly artificial-looking make-up, sets that were often unnaturally colored to suit the old ortho film, and glaring, flickery arc lights. Today, make-up is all but unnoticeable; panchromatic film makes it possible to photograph natural-appearing sets, and the nature and intensity of our lighting are rapidly approaching normal room-level standards, so that, all told, the actor can feel he is under much more nearly normal surroundings than ever before.

"In fact, in some instances, he can actually do his work under strictly normal surroundings. In my most recent film, 'One Foot in Heaven,' we filmed several important sequences in this story of a clergyman's life actually within one of Los Angeles' finest churches. Not so many years ago, it would have been impossible to do this. In the first place, the church would scarcely have tolerated picture people working there; in the second place, it would have been technically impossible to light such an edifice photographically and yet obtain a natural result. But times have changed. We made our scenes there: photographically they're even more effective than any set could have been—and believe me, our players were so conscious of the surroundings that they gave more convincing performances than they might have given on a studio set. And as a result of this combination of technically and psychologically fitting surroundings, I am sure the results on the screen will prove more dramatically convincing than any of us could have obtained a few years ago." **END.**

Title Trickery

(Continued from Page 427)

try the following, which involves more cardboard and Scotch tape. The title to be filmed last is centered in the easel in the usual manner. The second title is placed over the easel face and taped by the upper edge to the top of the easel. Then place the opening title over this and tape one edge to the easel. In action, the first title is filmed and then moved horizontally out of lens range revealing the second title, which, when sufficient footage is exposed, is lifted vertically bringing to view the final title of the series.

A wipe in title photography sounds almost impossible but a cut-off wipe

can easily be made using more cardboard and your titler. Trim a heavy piece of cardboard to fit exactly into the area framed by the easel standard. Paste this to a piece large enough to fit into the springback of the easel. This combination forms the title registration base as it can always be fitted in the same position in the easel.

Type or print your titles on two pieces of paper of the same dimensions as the larger section of cardboard. Paste the second title to be exposed on this base. Then place the opening title over this, but only paste it by one edge.

Fit the whole in the spring-back of your titler. Expose the necessary footage of the opening title, then remove and snip a diagonal strip from the loose end; replace and expose one frame. Keep repeating this operation until the whole of the lead title has been snipped away. Then film normally for the required footage in the second title.

Although the title is removed a considerable number of times during the single frame action necessary in making the wipe, it can always be refitted exactly by means of that portion of the registration base fitting inside the easel aperture. Thus wipes of this type can be made as easily as regular titles and there need be no fear that the text will be jumpy during the single-frame action. **END.**

Editing Vacation Films

(Continued from Page 428)

prise "twist," like an O. Henry short-story.

Another thing you're likely to discover as you go through your film on your viewer is that it's likely to have too much footage of scenery, and not enough of people and action. This can often be remedied, professional-wise, with "added scenes" which you can make at home. Show yourself and the members of your party doing things you *might have done* on the trip—you, fussing with your camera—your wife ruffling the pages of road-map or guide-book—Junior eating a hot dog or ice-cream cone. Shot against a non-committal background and cut into the picture at the right spot, they'll seem as though they were made at the same time and place as the scenic shots. And they can add a very necessary "lift" to what might be an otherwise dry parade of scenery.

Always remember, too, the basic professional rule for "establishing" a new location: begin with a long-shot, and work progressively in to the closest shots you've got. If you shot the Mt. Rushmore memorial, for instance, begin with the long-shots made, perhaps from a distance, with your normal lens, and come progressively closer with the closer shots you made from nearer points, and with your telephoto lenses.

Editing a silent picture, you'll have to think about titles, too, and this is a pretty good place to begin. If you can, give your picture a "sneak preview"

before one or two friends who aren't familiar with the places you went or the things you did. Notice at what points in the film's course they ask questions, and what they ask about. You'll need titles there. And your answers, boiled down to minimum wordage, will give a pretty good idea of what the titles should say.

And here you can borrow a trick we used to use back in the silent-picture days—making what we called "scratch" or temporary titles. Shoot them on the cheap, positive film which you can get for less than a dollar a hundred feet. Make them simple—just typewritten letters on a white card. Have the film developed as a negative, so that your white card comes out black, and the black lettering, white. Have the film developed in a high-contrast developer, by the way, so that the blacks will be really black, and the whites, white.

Cut these temp titles into their approximate places in the reel, and have another "sneak preview." See if the meaning of your film, as explained by picture and titles, is clear. If it is, shoot your final titles—black-and-white for a monochrome picture, and Kodachrome *always* for a Kodachrome picture.

Now cut these final titles into the picture. Sometimes you can slip them right in where the temp titles went. In other instances, you may want to alter their position a bit. This is especially true in the case of spoken titles, which should be handled this way: a short footage of the person speaking, shown in a close shot as he starts to speak; the title; and finally the remaining footage of the shot of the person. Often, by the way, you'll be able to eliminate quite a bit of footage in the middle of these scenes where you cut in spoken titles.

Now study your almost-completed film again, and start editing for tempo. Where a sequence drags, you can often speed it up by simply cutting the scenes shorter, and—if possible—using more and varied angles on the same action or view. On the other hand, if you want to get over an impression of peace and placidity—as in a quiet vacation lake—use longer scenes and fewer changes of angle.

When you want to keep things moving well, don't be afraid to cut close on exits and entrances. Instead of beginning a scene before a person, car, train or the like gets really into the frame, cut so the scene begins with your person well into the frame. In the same way, in an exit, cut as soon as it becomes clear the person is leaving the scene.


And since draggy tempo is a weakness of most vacation films, don't be afraid to trim most of your scenes short, and have plenty of different scenes in your picture. I've seen one professional travel-film—a one-reeler—which crowded no less than 235 scenes into a single 1000-foot 35mm. reel (equivalent to a 400-foot 16mm. or 200-foot 8mm. reel.) This was perhaps a bit too short—but it made

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The "Professional Jr." tripod is the most rigid on the market and has many features which are usually found only in regular heavy professional models. For example, it has a wide flanged base to assure steady panning, super smooth action of the friction type tilt head and a pin and trunnion of generous size to minimize the effects of wear and make possible smooth tilt shots.

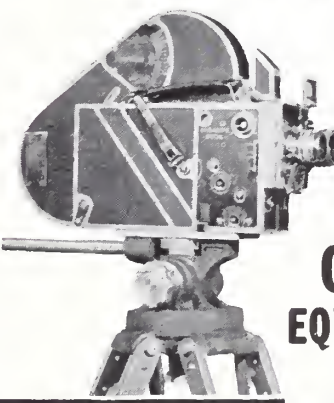
A sturdy handle screws into the top to control the movements, but for carrying, is removed and screwed into a socket in the center of the base. Wooden legs locked by a quick release knurled knob can be adjusted for height by a twist of the knob set between each leg. The extended height of the tripod is 86½", low height 46". Top plate can be set for 16mm Eastman Cine Special with or without motor as well as the Eyemo 35mm camera with or without motor and 400 ft. magazine. It will also take the DeVry 35mm camera. The tripod legs are reinforced to the head to assure steadiness at all positions.



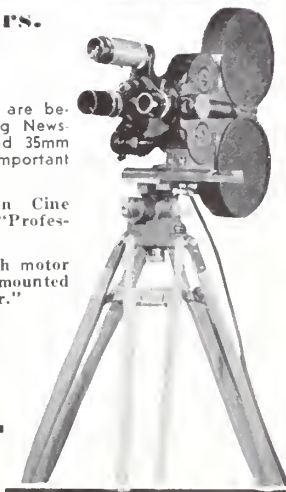
Tripod Head

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Left: 16mm Eastman Cine Special mounted on "Professional Jr."



Right: 35mm Eyemo with motor and 400 ft. magazines mounted on "Professional Jr."

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the picture march along very briskly indeed.

Finally, study your film on the screen again, and see where it will be helped by putting in Photofade fades and wipes. They will usually be most useful at the beginning and end of sequences, and they're easily made. Put them in and your film is completed and ready to show.

In closing, here are a few little professional tips. Don't be afraid of losing much footage in all this splicing and resplicing, and in—as is sometimes necessary—juggling scenes and sequences around from one part of the picture to

another. If you do your splicing well, you won't lose more than a couple of frames each time you splice—and with the exception of extra fast-moving montages, one frame more or less won't make or break any scene.

If you want to be on the safe side, though, and free to make as many revisions as necessary before splicing, just join the scenes together with strips of Scotch tape slightly narrower than the film, and of course narrow enough to avoid blocking the perforations. These temporary Scotch-tape splices will go through the projector quite safely, and can be ripped apart without damaging

the film. We often use them with 35mm. professional film, which is subjected to much greater strains in projection than the slower-moving 16mm. and 8mm. film ever is.

Remember, too, that cleanliness is of the utmost importance in handling film, especially reversal-film, where your projection-print is also your irreplaceable original. Be sure your cutting-table is clean and dust-free; handle the film as much as possible by the edges; and wear light cotton gloves to avoid finger-marks.

If you are editing a picture—either black-and-white or Kodachrome—which you know is going to be shown a lot, either privately or for commercial or educational purposes, protect your priceless original by having a “work-print” made, and do your editing with this work-print. When the task is completed (all but making the final titles) you can match up the original with the work-print. This idea is particularly valuable in editing Kodachrome pictures; you can have a black-and-white work-print made from your Kodachrome for just a few cents a foot—and by using it, you’ll save your original from much handling and the wear and tear of frequent projection and study on the viewer.

And finally, if you know your film is going to be shown very often, as in commercial and educational pictures, as soon as the task of editing is finished, have a duplicate made of it. Use this dupe as the projection film, and keep the original, for if the dupe wears out, you can always have another made from your original—but once the original is worn out, you can’t make a fresh dupe that won’t reproduce every scratch and blemish of the worn-out original—and you’ll find your picture is gone, too! END.

Selecting Music

(Continued from Page 429)

Wearry Way,” and “Quips and Cranks and Wanton Wiles” on British Columbia 9406 and 9407. These two suites, with others both of his more familiar and less-known compositions have been assembled in two special albums, “Albert W. Ketelbey Albums No. 1 and No. 2” by Columbia’s British affiliate. While unless the Gramophone Shop or perhaps Columbia’s main plant has them, these records would be very hard to get at present, I cannot recommend them too strongly.

Another pair of Ketelbey compositions, fortunately more easily obtainable, which are invaluable for scoring, are “Wedge-wood Blue” and “The Clock and the Dresden Figures,” available on (American) Columbia No. 50334-D. The former is also available on a Victor recording. These two pieces are particularly good as light, cheery accompaniment for films of children. Another that would be fine for this purpose is Columbia No. 69143-D “Dance of the Fairy Princess” and “Sunday Morning,” from Lord Berners’ suite, “The Triumph of Neptune.”

Sometimes you’ll want music of particular sweetness and beauty to accompany spectacularly lovely pictorial shots. Among the records I have used for such scenes I can recommend Victor No. 36038, which has on one side Godard’s “Adagio Pathetique,” and on the other the first movement of Beethoven’s “Moonlight Sonata.” Another useful record for this type of scenes is Victor No. V-50005, Lehar’s “A Kiss at Dawn.” Still another is “Gymnopedie No. 1,” by Erik Satie, on Victor No. 7252, which, by the way, is on the opposite side of the disc carrying the third part of Victor’s recording of Ravel’s “Bolero.”

This listing could easily be extended

much farther, for of course it scarcely scratches the movie-scoring possibilities of recorded music. But, even ignoring the several British recordings mentioned which, though invaluable, would not be easy to obtain under the present circumstances, it will give you a total of 14 easily-available American discs which should enable you to score virtually any home or vacation movie. Of course, if you travelled to some unusual spot like Hawaii or Mexico, you should add to it sufficient Hawaiian, Mexican or other special records to take care of that specialized type of picture; and it is always a good idea to have one or two good military marches to accompany parades, and the like. But in general, I have found from experience that the discs listed will take care of any scoring problem likely to arise in most amateur home or vacation movie, providing a pleasing accompaniment, well-suited to the picture, yet not so musically ornate or so frequently played that the score will contend with the picture for the audience’s attention. END.

Artificial Light Exposures

(Continued from Page 430)

Moreover, the time taken to find a good grey tint or to blacken in the squares is considerable. The writer spent a good deal of time finding the most generally useful and durable material for an artificial high-light, and concluded in the end that there is nothing so satisfactory as white sand-blasted celluloid. This can be washed without becoming shiny or altering its characteristics in the least, while it can be readily cut to any size needed and is also mechanically strong.

Before leaving the reader to his own devices, the writer would ask anyone who tries the above method to give it a fair chance. Any attempt to correct what appears to be a false exposure-reading for exposure will lead to a non-standard image quality, and it is much more kind to use the method mechanically on a variety of subjects before attempting any criticism of it.

In this connection, it may be interesting to tell a short story. Some years ago an eminent authority came to England from Germany for a visit, who reckoned to be able to expose reversal film perfectly on a basis of uncompensated processing merely by looking at the subject and guessing what the stop number should be. This authority took out a camera and exposed as he thought correct on a large number of subjects, while a duplicate camera exposed another identical film by the writer’s artificial high-light method. The two men using the cameras wrote down the stop numbers they used, but did not mention them to one another. The two films were then processed identically, and on projection it proved impossible to detect which was which, while a comparison of the stops used showed that there was never more than a quarter of a stop number between the two.

The writer considered this a compli-

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ment to the judgment of the authority, but the latter remarked that he had spent fifteen years learning to expose reversal film, and it was a little distressing to find that any fool using a mechanical instrument could get just as good results as he did himself! **END.**

Scenario

(Continued from Page 431)

- Scene 6. Close-up of Carol. She nods agreement. **FADE OUT.**
- Scene 7. **FADE IN.** Night-effect shot of Carol in her crib. She gets up and scrambles out of bed.
- Scene 8. Medium long-shot. Carol, holding a candle in her hand, comes through the kitchen door.
- Scene 9. Night-effect: Close-up of Daddy in bed snoring.
- Scene 10. Same as Scene 8. Carol closes the door behind her, and advances toward the camera.
- Scene 11. Close-up of kitchen clock. The hands point to 12:05. The first part of the scene is a blue-lit night-effect; this changes to normal white light as Carol's candle approaches offstage.
- Scene 12. Medium-shot of icebox. Carol opens the door, looks in and starts taking things out.
- Scene 13. Close shot of Carol at ice-box. She takes out a banana and starts to eat it.
- Scene 14. Close-up of pile of food from ice-box on floor. Camera pans left to Carol, sitting on the floor and eating the banana.
- Scene 15. Same as Scene 9.
- Scene 16. Close-up of floor beside ice-box. A can of pickles tumbles on floor.
- Scene 17. Same as Scene 15; Daddy wakes up and listens.
- Scene 18. Similar to Scene 16. A can of condensed milk falls onto floor.
- Scene 19. Long-shot of Daddy. He gets out of bed, puts on his dressing-gown and exits stealthily.
- Scene 20. Close-shot by door; Daddy opens it, then goes to ice-box.
- Scene 21. Close shot of ice-box door. It flies open and Carol is seen inside!
- Scene 22. Close-up of Carol, laughing. She speaks.

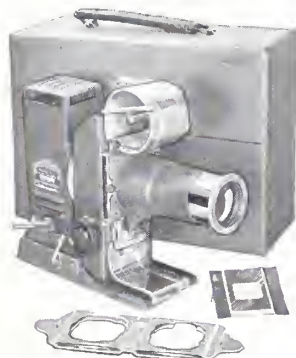
TITLE:

"YEHUDI DOESN'T DO IT—I DO!"

- Scene 23. Similar to Scene 22, but longer angle. Daddy reaches in and picks Carol up.
- Scene 24. Close-up of Carol, held high in Daddy's arms, his head in foreground. She is laughing happily. He nods his head solemnly.
- Scene 25. Close-up on floor. Another can falls to floor and rolls.
- Scene 26. Close-up (night-effect) of Mother in bed. She wakes, and looks up, listening.
- Scene 27. Medium-shot of Mama, sitting up in bed, she looks around and nods, then gets up, reaching for her dressing-gown.
- Scene 28. Medium long-shot of kitchen door. Mama enters, and stands looking sternly at the camera.



Clyde DeVinna, A.S.C., and Operative Cameraman A. L. Lane inspecting a Cinex Strip with an S.V.E. Picture Projector.



S.V.E. Tri-Purpose Projectors range in size from 100 watts to 300 watts. They have many exclusive features that make for simplified operation. Shown here is the 100 watt Model CC.

Lighting, composition, etc., can be conveniently checked on the set. Compact, light weight S.V.E. Tri-Purpose Projectors project perfect screen images, either of small size or as large as desired for group inspection. Each frame can be shown as long as necessary for thorough checking. The S.V.E. Tri-Purpose Projector, occupying minimum space, is easily stored in your camera accessory case. It is the only projector made which shows both single and double frame 35 mm. filmstrips and 2" x 2" slides. S.V.E. also makes projectors for showing single-frame filmstrips only. Write for literature!

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Scene 29. Medium-shot of Daddy and Carol, squatted on kitchen floor, eating a midnight snack. They look up at camera, suddenly guilty.

Scene 30. Close-up of Mama. Her frown dissolves into a smile. She speaks.

TITLE:

"NOW YOU TWO HAVE FOUND YEHUDI—DON'T LOOK FOR HIM AGAIN IN MY ICE-BOX AT MIDNIGHT!"

Scene 31. Medium-shot, similar to Scene 29. Mama is squatting between Daddy and Carol, happily enjoying her share of the midnight repast. **FADE OUT.**

Lenses

(Continued from Page 432)

If the focal length is 25mm. (1 inch) and the opening is 3.12mm., the f-value is 8.

If the focal length is 75mm. (3 inches) and the opening is 9.37mm., the f-value is also 8. In each lens the transmitted light-value is the same and the exposure of the film would be identical. Sounds odd, but it is true. The calibration of the diaphragm openings are usually marked on the lens barrel as f:1.5 - 1.9 - 2.7 - 3.5 - 4.5 - 5.6 - 6.3 - 8 - 11 - 16 - 22.

The speed of a lens is determined by the size of the widest diaphragm opening. Hence, a lens of f:1.5 or f:1.9 is faster and will admit more light than a lens of f:3.5 or f:4.5 value. If, how-

ever, the fast f:1.9 lens is closed down to an opening of f:3.5 it has no advantage over the f:3.5 lens as each admits the same amount of light at that stop. The only advantage the f:1.9 lens has over the f:3.5 lens is its ability to admit more light under poor light conditions.

The diaphragm of a lens provides another function in photography. With its use in controlling the amount of light, it can also be used to increase sharpness and depth of field. Depth of field of a lens is the distance in front of and back of an object focused upon, that remains sharp at a given diaphragm opening. This extra play of sharp focus in motion picture photography is, of course, a great benefit, as the action can move back and forth in relation to the camera yet remain in focus. When the diaphragm is opened to large apertures this depth of focus becomes very shallow, but as smaller apertures are used the depth increases rapidly. An object which is 6 feet from the camera may be greatly out of focus when the diaphragm is set at f:1.9 but the same object could be sharp when the aperture is reduced to f:11 or f:16.

Lenses of long focal lengths, such as telephoto lenses, must be focused critically as these lenses have less depth of field than short focal length lenses. Oftentimes a matter of a few inches will throw the subject out of focus when

using a telephoto, whereas the natural depth of field in a short focal length lens would embrace the subject. When using your telephoto lenses always measure your distances to the subject unless you are filming distant objects or using small apertures. Do not estimate these distances as you may miscalculate and get an unsatisfactory result. If you can't measure the distance with a tape-measure, use a rangefinder!

It is well to memorize the angle of acceptance of each lens you use, because exposure meters have various field angles, depending upon the model you are using. As an example, you would get an incorrect reading on a meter which is registering light from an angle of 60 degrees from the camera, for example, and filming with a lens having an angle of acceptance of only 20 degrees. In this case, the meter is registering three times the amount of light that is penetrating the camera lens, and would result in underexposure. When using a combination such as this, take the reading about two-thirds the distance to your subject. **END.**

16mm. Commercials

(Continued from Page 433)

Wifey wasn't too much of a photographic success in that cute little colorful outfit she had bought specially for the occasion. She was outclassed by the scenery and you didn't know she was in the picture unless she moved; which she seldom did. But then somebody would yell, "There's Helen" and the others would chorus politely, "Oh yes. Isn't she cute." But by that time Helen would be replaced on the beaded surface by a sunset or something. It was funny about Helen. She would just stand and grin at the lens. She never wanted to move

when she was having her picture taken. Our patient thought it was a throwback to the old still picture days when she would always move and blur the picture.

All the time this preview was going on our patient was listening to the Oh's and the Ah's, the generous praise of the audience he would afterwards feed. Their happy laughter and their genuine delight acted upon him like a heady wine. These people appreciated him. They appreciated this work that he did in his spare time because he liked, nay loved to do it. Their praise, their enthusiasm acted on him like an insidious drug. It stiffened his resolve. Why not?

In the crowd that he and his wife went around in there were always others to carry off the honors in tennis or badminton or any of the other mild relaxations they indulged in. He never shone. He didn't even dance well, Helen told him.

But when it came to home movies though, he was the only one to shine. In that field he had no competition. Standing beside his projector in his darkened living-room, with the enthusiastic praise of his friends mingling with the reflected glow from the screen our patient became a new man. Really he became "the patient."

After the showing, when the lights had been turned on again, the conversation continued around the movies that had just been shown; and the idea that had been germinating in our patient's brain began to take form.

"Do you really like them?" he asks earnestly.

They pause to swallow the current mouthful of cake.

"Like them? Why they're marvellous." They reply in a burst of confidence.

"I think they're just too darling" sums up a girl friend of Helen's who, to everyone's disgust, affects a southern accent.

"And that color was just gorgeous," someone says.

They all agree and the significance of the photography of "Gone With The Wind" pales. Our hero, remembering that that epic cost around 3 million and that his two rolls of Kodachrome had cost him 16 bucks, plus tax, decided then and there that a hell of a lot of money was being wasted in the motion picture business.

His mind went back to the movies he had seen from time to time at the luncheon-club to which he belonged. Dull, uninteresting things most of them, of trips through this factory or that bottling works. But people got paid for making them! Actually got paid, by the people whose factory or bottling works he saw pictured, for shooting a camera. A delightful, shiny camera. And it wasn't as good as his stuff. His friends said so. Some people have all the luck.

Then he thought of the job he had been going to steadily day after day, year after year. He had always liked it; but now it seemed to pall. How had he stood it? Auditor! Auditor indeed! He wasn't cut out for such work. He was an artist. Hadn't he proof of it? Hadn't he seen people held spellbound by the beauty of his pictures? Heard them laugh at the humor that, he admitted to himself, hadn't always been intentional but which some inner genius, he reasoned, must have guided him to take? Hadn't he seen them respond to his human-interest bits of his children and the neighbor's dog?

Let others win approval at bridge or crossword puzzles! Movies were his work! Thank God he had found himself in time! He was still a young man. But there's no time to lose. He wouldn't waste his time trying to get into the Hollywood studios . . . yet. He was too smart. Too much nepotism there. He'd heard all about it from people who knew. You had to be related to somebody. But he'd force them to recognize him.

He'd form his own company. But did he really need a company? He could do all the work himself. It would be easy to sell people on the idea of making a movie of their factory or whatever they had. Then he'd shoot it and splice the scenes together. Sound? He'd heard that there were people to do that sort of thing for him. And he had all the equipment. Well, anyway, he had a camera.

Why, all he needed was a name. A name and some letterheads to put it on. Let's see, a name . . . hmmm . . . Ah, Apex! That would do. Apex motion picture company. Our hero, president. He'd need some cards, too. Those he could order on his way to work in the morning. But he wasn't going to work in the morning. He would have to stop in though and tell the old man that he was through; that he had found himself in time to prevent being a wage slave. A wage slave for the rest of his life!

But we have carried our factual fancy too far already. Even as a narrative I cannot carry on the story farther without bursting into tears as the story de-

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velops and our hero meets one disillusionment after another. So halt, impulsive youth and consider the following pertinent facts, to wit:

The people who are so genuinely enthusiastic about your movies wouldn't be so loud in their praise if they were paying for them out of their own or their companies' pockets. After all, they're your friends. They're not looking for faults and if they see them even your best friends won't tell you.

But the people for whom you make movies for cash (you hope) *do* look for faults and what's more they find them.

Your friends know that this is just a harmless way you have of keeping yourself amused in your spare time and, because friends are that way, they don't hold it against you. They know that even at the worst they can go home a little later. Maybe sooner if they can think up a good one.

But when people—especially businessmen and advertising agents—pay for a thing, they feel they've purchased the right to find faults, whether they know anything about movies and movie problems or not. They're not interested in "arty" photography or pretty landscapes. They don't care whether or not you make the people in their movies look as glamorous as George Folsey makes Hedy Lamarr and Clark Gable. But they have a particularly nasty way of raising Cain if you don't deliver good, clear, fully-exposed photography in every scene. They raise worse than Cain if you don't show their product, their factory and its processes clearly and glamorously to the tiniest detail.

But your photography is good! All right, it's good. So what? Can you turn it out, scene after scene, under adverse conditions, and working on a cramped time-schedule, with half-a-dozen people badgering you to hurry up, to get out of the way, and to be sure and get this or that?

And there's the message. A message? You never thought of that, did you? Well, every company that pays to have a movie made has a funny little habit of insisting that the picture carry a message. That's what they're buying—a movie to take their message to all the people who sit in on the film's screenings. That's what they're paying for. And, by gum, that's what they're going to get, even if they have to break the movie-maker's neck (and heart) in getting it!

So if you've followed me this far, dear reader, sit back a moment or so and do a bit of probing in your own subconscious. Do you recognize any of the patient's reactions as similar to emotions that have been stirring within your own breast? If so, take a good swallow of this bitter pill: making movies for pleasure and making movies for business are two very different things. Moviemaking for pleasure is rightly classed as one of the finest hobbies in the world. If you do it even reasonably well, all your friends and acquaintances are ready to

pat you on the back and tell you how good you are.

But moviemaking for pay is an entirely different thing. It's a crowded and precarious field. Even in the relatively new field of 16mm. commercial moviemaking there are a lot more hopeful producers than there are pictures to be made (and paid for.) So it's a long wait between jobs—and unless you're one of a scant handful of proved top-notchers, it's rock-bottom prices and small profits, or none, when the jobs do get lured in.

And the people who pay for movies naturally feel they've a right to buy results. They'll complain of things you never thought of, and take as a matter of course achievements an amateur would crow about for months.

In other words, as a movie hobbyist, your failures are forgotten, your successes remembered and magnified. As a movie professional, your successes are taken as part of the job, but every slightest failure is remembered, magnified, and held lastingly against you. As soon as you take money for doing photographic work, you're expected to be good—and woe be to you if you slip, even for a single scene!

What? You don't think I've even yet made out a case that's strong enough to weaken your resolve to go commercial? Well, consider the further adventures of our mythical patient. That'll cure you! Only we'll have to do it next month, for the Editor tells me we're running out of space. So be patient—if you can—until next month. Like an old-time movie serial, our next installment will pack plenty of drama for our hero, and (like a modern realistic film) even more disillusionment and discomfort. So we'll see you here next month! END.

Movie Clubs

(Continued from Page 434)

in Texas, written in the form of a Naval order commanding a little response to his numerous communications, was also read.

Mr. Garlock gave details as to the Pet-, Comic-, and Backyard-movie contest to be held at the September meeting. The closing date for the Ladies' Contest, to be held at the October meeting, was set at October 11th. The Chairman gave further details and assignments for the Club's forthcoming picnic and Fun Fiesta, to be held Sept. 28th.

A very unusual picture was shown by Honorary member Bill Stull, Editor of THE AMERICAN CINEMATOPHIL. This film was sent to the magazine for review by Joseph F. Hollywood, of New York's Metropolitan Movie Club, who many remembered as the maker of the A. C.'s popular prize film of a few years back, "Two Kids and a Pup." Mr. Hollywood's present film was in two parts, entitled "Democracy" and "Mr. Hitler Never Loses." In both camera-treatment and subject-matter (national and international politics) Mr. Holly-

wood's films proved unique and well worth seeing.

Pictures shown by members included Frank De Virgilio's "A Tale of the North," two films of previous club picnics filmed respectively by Bill Millar and Irwin Dietze; "They'll Do It Every Time," by Alva Cadarette; "It Happened One Night," by W. D. Garlock; "The Kleptomaniac," by Bion Vogel; "Desert Springtime," by past-president Dr. Robert Loscher; and "Hawaii Bound," by Phyllis Zeh.

BETTY BARNEY, Secretary.

Idea Exchange

(Continued from Page 437)

to any angle to act as a sunshade. It's a good idea to make the base mounting so you can use it on either side of your camera, according to the direction of the light you want to shade. With some of the larger 16mm. cameras like the Filmo and Cine-Special, you can shorten the rod and put your mounting-block right on top of the camera, the way professionals sometimes mount a visor on top of the camera-blimp.

JACK GREENHALGH, A.S.C.

Camera-Light for Close-ups

Some time ago I saw an article in THE AMERICAN CINEMATOPHIL by Tony Gaudio, A.S.C., telling how he mounted a battery of small lamps on his camera for front-lighting close shots of people. Here's how the same principle, on maybe a more limited scale, can help put in home-movie filming. Most flash-gun manufacturers, like Kalart and others, make special L-shaped brackets for

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mounting their flashguns on cameras like the Rolleiflex, Leica and similar miniatures. Get one of these brackets. You'll see it has at least two holes on each arm, threaded to accept the regular 1/4-inch tripod-screw, and a bolt which can be fitted into any of the holes, threaded so it screws into the camera's tripod socket. Screw this into one of the holes on the bottom of the L, and attach the bracket to the camera with it so that the upright part of the L comes up at one side or the other of the camera. Then use the other to screw the bracket onto the tripod.

You can use the upright part of the bracket to hold a clamp-on photoflood lamp beside and slightly above the camera, or you can use a 1/4-inch bolt to mount a "Dinky Inky" on the bracket.

This will give you a lighting unit—floodlight or spotlight—beside the camera for front-lighting close shots of people, and which pans and tilts as you pan and tilt the camera to follow them.

ALBERT CHRISTIANSON

Showcase

(Continued from Page 439)

ring which the company has always used in its cine projectors to assure positioning the lamp for maximum illumination. The top of the Slide-master lamphouse is a hinged snap-cover, which automatically breaks the electrical circuit as it is opened, so that lamps may always be interchanged with perfect safety. It is further stated that since the globe burns base up, gloves are not needed to remove a hot lamp.

The Filmo Slide-master is designed to take 500-, 750-, or 1000-Watt base-up lamps, providing whatever degree of illumination is required, at the maximum giving considerably greater lamp-power than is common among minislide projectors. It is stated that the lamphouse is so designed that there is no light-spill from this projector; the darkened room stays dark, except for the brilliant picture on the screen.

With such high-powered lamps operating in a comparatively small lamphouse, forced cooling is an obvious necessity. In this installation the powerful, motor-driven ventilating-fan automatically alters its speed according to the wattage of the lamp being used. Thus when a 1000-Watt lamp replaces one of the smaller globes, the motor automatically increases its speed, and therefore the blast of cool air, and decreases speed when a smaller lamp is used. The forced cooling draft circulates throughout the projector, with special attention given to cooling the slide itself. Motor and fan-bearings are sealed in, lubricated for life. The condenser includes two heat-absorbing glass filters, for maximum slide protection.

Two clearly-marked switches are provided, one controlling the complete projector-circuit, the other operating only the lamp. The lamp cannot be turned on unless the motor fan is running.

The Filmo Slide-master projector is offered with a choice of 3 1/2-, 5-, or 7 1/2-inch f:4.5 lenses, all of which are stated to be anastigmatic and interchangeable mounts. Focusing is by a rack-and-pinion assembly, and lenses may be locked in focus. Self-locking tilt-controls, one at each end of the projector, provide either up or down tilt through a wide range.

The slide-carrier, of the conventional horizontal-shift two-slide type, is of die-cast metal with special air-passages to provide circulation of cool air around the slide. Slides are held in the focal plane by springs.

Kotavachrome Professional Color-prints

Kotavachrome Professional Color-prints designates a new and remarkable service just introduced by the Eastman Kodak Company for making full-color paper prints from Professional Kodachrome cut-film transparencies. Kotavachrome prints may be made from any Kodachrome Professional cut-film transparency original ranging in size from

2 1/4 x 3 1/4 to 8x10, with the exception of the 45x107mm. and 6x13 cm. stereo sizes and 11x14-inch originals. Print-sizes range from 8x10 to the record size of 30x40, with the maximum enlargement from any transparency limited at present to 6 diameters.

For the present, at least, all Kotavachrome prints must be made at the Eastman Kodak Company's Rochester laboratories.

Prices for Kotavachrome Professional Prints are:

Size 8x10, prince per print \$12, *\$6; 11x14, \$17.50, *\$9.50; 14x17, \$25, *\$14; 16x20, \$33, *\$18.50; 18x22, \$39, *\$22.50; 20x24, \$45, *\$27; 24x30, \$66, *\$40; 30x40, \$90, *\$60.

*Additional prints from same transparencies when ordered at same time.

It is stated that since Kotavachrome prints contain dyes which may in time change, they will not be replaced or otherwise warranted against any change in color. The dyes used in this process are stated by the Eastman Kodak Company to be as stable as possible consistent with other necessary requirements. It is stated that it is important that Kotavachrome prints should not be exposed for long to direct sunlight.

Kotavachrome Professional Prints will be available through dealers in September, according to the Eastman organization.

Booklet on DuPont Copying Films

A new 20-page booklet entitled "DuPont Films for Documentary Reproduction" should prove of interest to both the hobbyist and commercial user of film for photographic copying. All necessary information such as speed ratings, exposure guides, spectrograms, developing times and storage recommendations are included for DuPont Safety Microcopy, the firm's ultra fine-grained panchromatic negative with an effective resolving-power of more than 193 lines per millimeter and for DuPont Safety Positive and Fine Grain Safety Positive, companion films for use in documentary reproduction.

Copies may be obtained by addressing the DuPont Film Mfg. Corp., 9 Rockefeller Plaza, New York, N. Y.

New Bolex Frame Counter

A useful accessory for Bolex cameras is the recently-announced frame-counter, which attaches to the motor-crank shaft of the camera and counts individual frames while the camera is in forward or reverse motion and whether being run by spring-motor, electric-motor or hand-cranked. Two dials are provided; one registers each frame as it passes the gate, while the other registers 50 feet at a time and keeps a record up to 1000 frames. All Bolex cameras with serial numbers higher than 9400 provide means for attaching this accessory instantly. The name-plate is removed and the counter attached to the holes where the screws held the name-plate

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in place. An extension-shaft connects with the camera motor-shaft and the name-plate is fitted into place on the side of the counter. A special spring-motor winding-handle is required, which not only clears the frame-counter as the crank is turned, but also clears the turret when that is turned so it protrudes beyond the side of the camera. Price of the counter is \$17.50, and the winding-handle, \$5.00.

Photography of the Month

(Continued from Page 425)

erally very good. It is exceptional in the case of Ellen Drew who, though a rising young player, is by no means essentially photogenic. Planer's lighting presents her far more attractively than she has ever appeared before—so much so that our advice to the lady would be to make every effort to have him continue photographing her, for he has literally brought out a new and much more attractive personality through his camera-treatment.

We cannot, unfortunately, say quite as much for his treatment of the other feminine star, Ruth Hussey, who does not fare nearly so well photographically in this production. To our way of thinking, Planer, in his efforts to contrast her characterization with that of Miss Drew, has lit her a bit too flatly and used rather too much diffusion to show her to best advantage. His treatment of Melvyn Douglas is much better, though there are one or two scenes where this player is allowed to turn to show distinctly unfavorable angles to the camera.

The handling of the climaxing fire sequence of the picture is both dramatically and technically a distinct highlight of the production, and stands much to the credit of Planer and the uncredited special-effects staff.

DIVE BOMBER

Warner Bros.-First National Production (Technicolor.)

Directors of Photography: Bert Glennon, A.S.C., and Winton Hoch, A.S.C. Aerial Photography by Elmer G. Dyer, A.S.C., and Charles A. Marshall, A.S.C. Special-effects by Byron Haskin, A.S.C., and Rex Wimpy, A.S.C.

As more and more Technicolor films are turned out, it is becoming increasingly evident that there are developing two well-marked schools of thought as regards the use of color. One—best exemplified recently by "Blood and Sand"—seeks to employ color as a means of heightening dramatic mood and effect. The other uses color in a strictly realistic way, "Dive Bomber," as an action-film based on the activities of the U. S. Navy Air Service, necessarily belongs in the latter group. It is an excellent example of this type of color-film.

The most spectacular photographic opportunities the film affords are naturally those given the makers of the aerial scenes, aerial specialists Elmer G. Dyer, A.S.C., and Charles A. Mar-

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shall, A.S.C., who cover themselves with glory by the way they have carried out their difficult assignment. In "Dive Bomber" they have produced some of the finest examples of Technicolor aerial pictorialism ever screened. Their scenes of formation-flying and similar aerial evolutions are technically excellent, as well.

Production cinematographers Bert Glennon, A.S.C., and Winton Hoch, A.S.C., are offered less in the way of pictorial opportunities. There is virtually no opportunity for mood or dramatic lightings, as the nature of sets and action alike precludes this. None the less, Glennon and Hoch do excellently with the material at hand. Glennon's work in particular is noteworthy, as we understand he filmed a great part of the picture alone, with no Technicolor associate present, while Hoch was occupied elsewhere, directing the photography of other sequences of the film.

But if the film offers scant opportunity for pictorial and dramatic lightings, it offers—perhaps all the more strikingly—an opportunity for Glennon and Hoch to show what they can do with lighting the players. This they do uncommonly well: Errol Flynn, for example, has never appeared to better photographic advantage, in either black-and-white or color, while co-star Fred MacMurray appears to much greater photographic advantage than he did, for example, in his previous Technicolor appearance, "Virginia," which incidentally was also photographed by Glennon.

Special-effects cinematographers Byron Haskin, A.S.C., and Rex Wimpy, A.S.C., contribute sturdily, if not necessarily spectacularly, to the film. There are many scenes which must necessarily be their handiwork, but which are so

skillfully executed that they well-nigh defy detection as process-shots. The scenes showing the principals piloting airplanes, especially, are notable examples of skillful back-projection process-work, some of them utilizing some of the largest background-screens we've seen used in Technicolor.

It is unfortunate that when the press preview of "Dive Bomber" was held, apparently all of the available color-balanced release-prints were needed elsewhere, for the film's spectacular three-theatre premiere in San Diego. In consequence, the print shown to the press was apparently the work-print, which was not correctly color-corrected, and hence in a number of sequences did an injustice to the genuinely fine work of "Dive Bomber's" six-starred team of cinematographers.

WILD GEESE CALLING

20th Century-Fox Production.

Director of Photography: Lucien Ballard, A.S.C.

Lucien Ballard, A.S.C., in his first picture at 20th Century-Fox, does a very workmanlike job in bringing "Wild Geese Calling" to the screen. The film does not offer him the most unusual of pictorial opportunities, but he wrings the maximum of effectiveness from every opportunity presented him. His set-lightings and effect-lightings are excellent, and he presents his players to maximum advantage. One might, perhaps, question his rather too-frequent use of extreme low-angle shots with a 24mm. lense which, while effective both dramatically and pictorially, seemed to this writer slightly overdone, so that at times when its dramatic value was most needed, the effect of the trick had

White has excellent opportunities not only for straightforward camerawork, but pictorial and mood effects. He distinguishes himself in his handling of them, never missing any opportunity that comes his way. His treatment of the players is also excellent, especially as regards the feminine ones. It might be suggested, however, that the characterization of Patricia Dane, as the gold-digging city girl, might have been made much more convincing had he been allowed to give her a slightly less flattering photographic treatment. As it is, she is presented so attractively (not only by photographer but by writers and directors as well) in the earlier sequences that her sudden change of character at the end seems incongruous.

SUN VALLEY SERENADE

20th Century-Fox Production.

Director of Photography: **Edward Cronjager, A.S.C.**

"Sun Valley Serenade" is a typical musical in the Zanuck manner, but it offers considerably more photographic interest than most. Director of Photography Edward Cronjager, A.S.C., has turned out an excellent photographic job, with one or two sequences so exceptional that it is worth seeing the picture for them alone.

Outstanding among these is of course the skiing sequence, by long odds the real highlight of the production in every way. As an example of spectacular action-camerawork amid spectacular settings—the mountains above Sun Valley—it is by far the best skiing film ever made in this country, and well worthy of favorable comparison with the all-time "tops" in this field—the pre-Nazi German-made "Piz Palu" and Tsukamoto's "Mt. Zao." The process-work in this sequence adds measurably to its value; for that matter, the process-work certainly deserves screen credit.

The second pictorial highlight is the concluding "black ice" skating ballet which, while it does not give the star the best of opportunities to display her skating skill, is a pictorial delight.

Cronjager's treatment of the players—especially Lynn Bari and the strikingly slenderized Sonja Henie—is excellent. His introductory close-ups of Miss Bari are particularly lovely.

Drastic cutting of the film's overly long drawn-out musical interludes would be beneficial. In their present form, however, they deserve study as remarkable examples of the artifices an ingenious cinematographer can draw out of his bag of pictorial tricks when faced with the problem of keeping things interesting in the screen when the script calls for a ten or twenty-minute interlude of so static and visually uninteresting a subject as a swing band in action. What Cronjager has been able to do to this end through the use of projected shadows, diversified camera-angles and the bizarre perspective-distortion of a 24mm. lens (especially in close angle-shots of trombone-playing bandleader Glenn Miller

and his band's trombone section!) is a genuine achievement. But the picture, as a picture, would be much better if these sequences were shortened by half.

The recording, by Alfred Bruzlin and Roger Haman, is excellent, especially in Glenn Miller's first musical number which starts the film off with surpassingly fine sound which, unfortunately, is never quite equalled in the succeeding numbers.

WHEN LADIES MEET

Metro-Goldwyn-Mayer Production.

Director of Photography: **Robert Planck, A.S.C.**

Robert Planck, A.S.C., makes this film a pictorial delight. His compositions and set-lightings make it one of the most decorative films we've seen in some time. His use of cast shadow-patterns on set-walls, for example, adds notably to the richness of the sets provided by Art-directors Cedric Gibbons and Randall Duell. Visually, the picture is one of the most richly-mounted productions even M-G-M has turned out lately.

Planck achieves very excellent mood-lightings, keeping his treatment well keyed to the changing dramatic requirements of the story, which range from smart comedy to seriously dramatic scenes. His effect-lightings—especially one scene played almost entirely in silhouette, and the various night-effects—are very fine.

The film makes extensive use of projected-background process-shots. It is really unfortunate that M-G-M does not give credit for the process-shots in this picture, for they are not only well above M-G-M's usual standard, but rank high among the best we've seen. In one shot, the definition and perspective of the background-plate might have been better

coordinated with the foreground, and in the sailing sequence this reviewer felt that the agitation of the water in the immediate foreground could have been improved to good advantage. But in the main the process-work was a real highlight.

On the other hand, it must be admitted that Planck's treatment of the players was a bit uneven. He gives Joan Crawford by far the best photographic appearance she has enjoyed in a long time; but on the other hand, his treatment of Greer Garson—especially in her earlier scenes—is by no means so good. After seeing her in "Blossoms in the Dust," too, one inevitably misses the vibrant reality Technicolor gives this capable star. Planck's treatment of Herbert Marshall could at times be considerably improved, especially in some scenes where Marshall's movements took him from the usually soft front-lighting which most flatters him to an unduly strong cross-light or cross-back lighting, which momentarily added years to his appearance. Planck's diffusion technique might also have been more consistent; it would be an exaggeration to say that he seemed to use every known medium of diffusion at some time or another during the picture, but he certainly came close to it, interspersing heavily-diffused scenes with scenes shot with very little or none.

Despite these comparatively minor faults, however, "When Ladies Meet" stands out as an outstandingly pictorial piece of camerawork—and fine entertainment, to boot.

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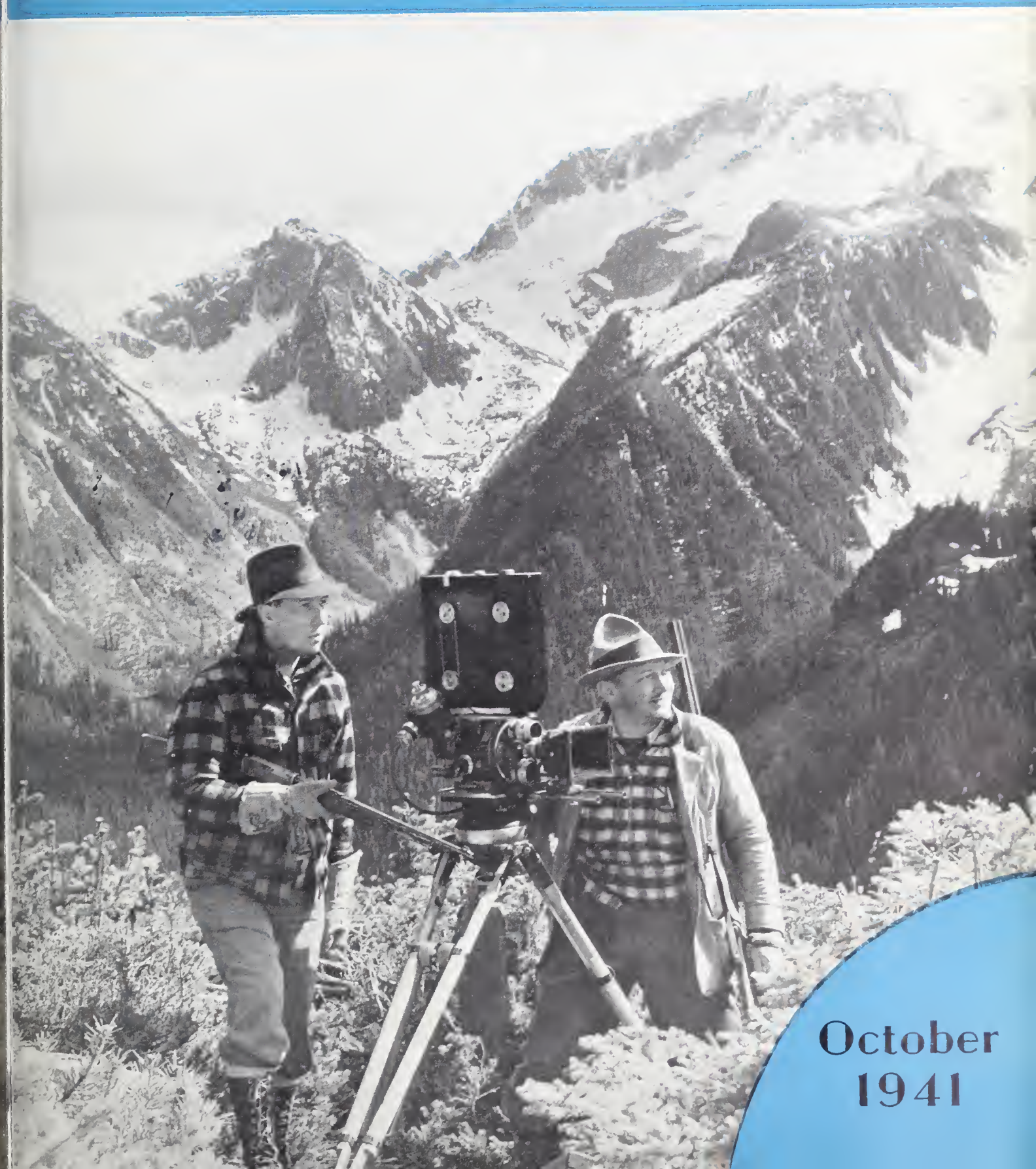
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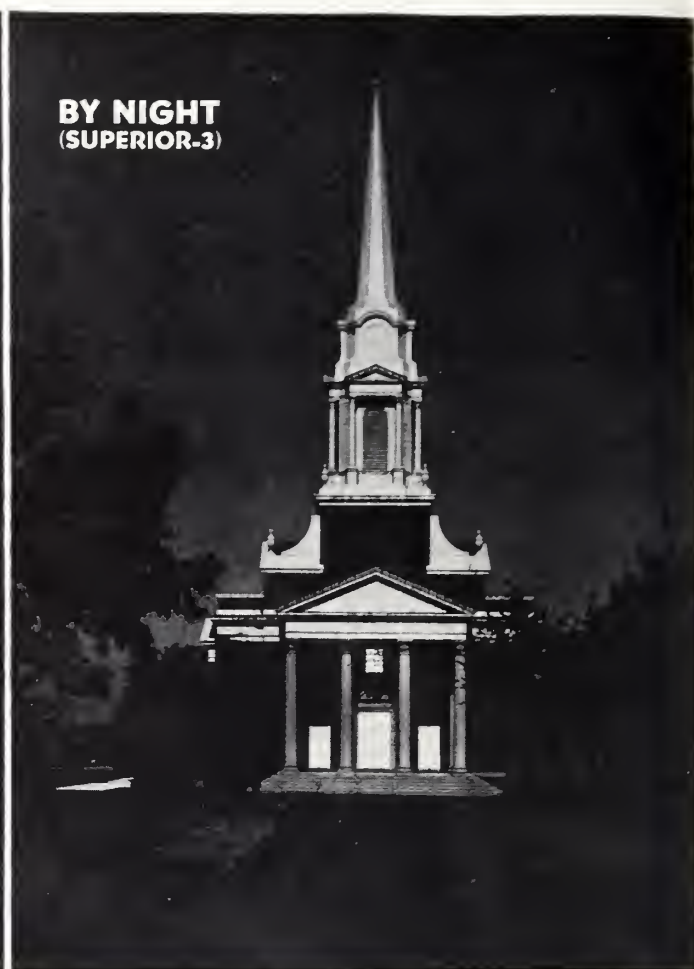
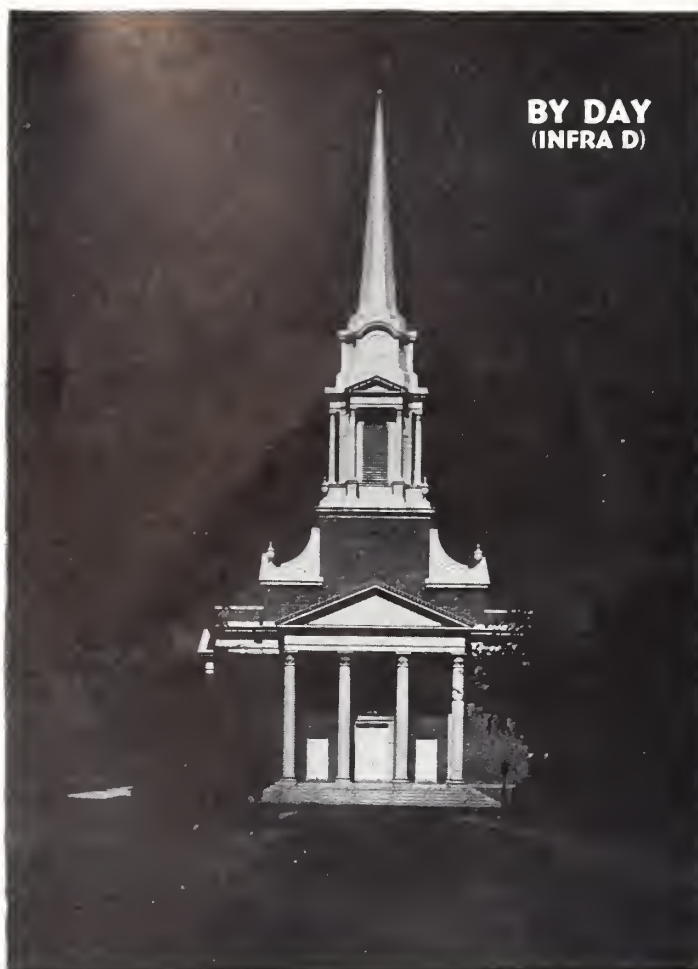
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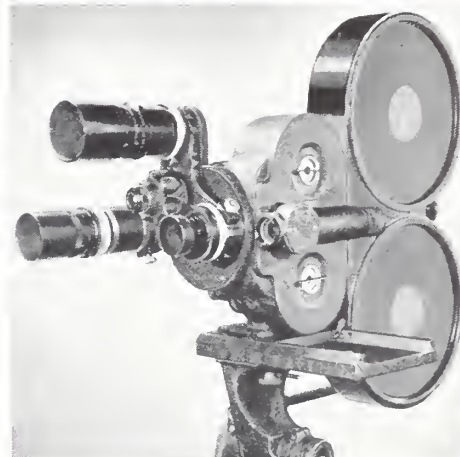
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OCTOBER, 1941

NO. 10

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The Front Cover

The cover this month shows Ray Fernstrom, A.S.C. (right) and producer Leon Shelley on location somewhere among the Canadian Rockies filming a Cinecolor short-subject, "British Columbia Sports," for Columbia release. The camera used is a bipack-equipped Bell & Howell with special magazines to take the two negatives required by the two-color process.





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16mm SOUND TESTS PICK TWO NEW STARS

By WILLIAM STULL, A.S.C.

SIXTEEN millimeter sound-and-picture tests are responsible for the selection of two of Hollywood's newest stars! When Howard Hughes began casting for his latest production, "The Outlaw," he decided that his screen version of this saga of Billy the Kid would be more convincing if screen newcomers, rather than established film "names," portrayed Billy and his fiery sweetheart.

That decision meant tests—and lots of them. You can't determine whether a young player is good or not by mere visual inspection, or even by studying still portraits. You've got to see what the cine-camera does to appearance, and what the microphone does to the voice. And in a case like this, where success spells stardom virtually overnight, there will inevitably be a world of applicants to be tested.

Therefore on account of its economy and convenience, 16mm.—with sound—was chosen as the medium for making the tests. So successful did these substandard tests prove that Jane Russell and Jack Beutel were chosen solely on the evidence presented by 16mm. film. No 35mm. tests of any kind were made until after the final selection had been made—and then the standard-film tests were made only as a check to make sure that the 16mm. camera and recorder had not been unduly flattering!

Very wisely, Hughes and his then associate, Director Howard Hawks, enlisted the cooperation of an organization specializing in 16mm. commercial films and recording—Hollywood's Telefilm studio. The project was carried through with standard professional 16mm. equipment — a Berndt-Maurer "Sound-pro" camera and a Berndt-Maurer 16mm. double-system recorder. On the sound end of things, Pete Gioga, the Telefilms recording engineer, was in charge. The photography — which extended over a period of several weeks—was jointly handled by Randolph Clardy, 16mm. business-film specialist, Maurine, the celebrated feminine portrait-photographer who had made the innumerable preliminary stills from which the final thirty-five aspirants were selected, and Director of Photography Lucien Ballard, A.S.C. Director Howard Hawks directed the tests.

Since convenience, as well as economy, was one of the major considerations of

this 16mm. testing program, a test-stage was improvised in a large room in the basement of the Hollywood laboratory building which housed the offices of the various Hughes enterprises. A set of suitable Mexican architecture was obtained from an independent 35mm. studio, transported to this room, and rebuilt to provide a suitable background for the tests.

Standard 16mm. film products were used. Since the 35mm. production was to be in black-and-white, it was decided to employ regular Eastman Super XX reversal film rather than the Kodachrome so often used in making major-studio silent 16mm. tests. The recording was done on DuPont 16mm. sound-recording positive. The picture-film of course went through the processing of the Eastman Hollywood reversal-film laboratory, while the sound-track was developed and printed by Hollywood Film Enterprises. In all, over 12,000 feet each of 16mm. sound and picture film were exposed.

Since the scenes were for test use only, no composite prints were deemed necessary. Instead, 35mm. studio practice was followed: the separate sound-track and picture were reproduced by using electrically interlocked 16mm. projectors. This method was found to be entirely satisfactory for the purpose, and of course eliminated the additional delay and expense of making composite prints.

Without doubt, the surprising factor in these tests was the sound quality. Other studios had for some time been making silent 16mm. tests in both black-and-white and color: the fact that this could successfully be done had been proven beyond doubt. But the general opinion regarding the use of 16mm. sound was that substandard recording had not as yet progressed to the stage where it could be compared with 35mm.: when the Hughes testing program was begun, all that was hoped for was that the sound emerging from the 16mm. speakers would be intelligible.

The actual results proved a revelation: while the 16mm. sound-quality was of course not to be compared with the best obtainable when major-studio 35mm. recording is reproduced on the finest of equipment, it was certainly well on a par with what is heard when the 35mm.

recording is reproduced on the average theatre's projection system. It proved convincingly that direct 16mm. recording—in the proper hands—can be as good as that encountered in many a 35mm. test.

This, despite the fact that these tests were not made under the most favorable recording conditions. The room used for making tests was not designed for recording purposes; it was comparatively small and, despite the hanging of sound-absorbent drapes, and the like, considerably more "live" acoustically than is desirable for good recording.

The standard Berndt-Maurer double-system recording unit was used. With it was employed a Western Electric cardioid microphone which, due to its strongly directional pick-up, proved very advantageous. The Berndt-Maurer 16mm. camera was used unblimped, with only a simple, quilted "Barney" to insulate camera-noise from the microphone. It speaks very well for both the silence of the B-M camera and the directional characteristics of the cardioid microphone that this was feasible.

According to sound engineer Gioga, however, this arrangement was entirely satisfactory. In a majority of the scenes, he states, no camera-noise was apparent; in a few others, recorded at unusually low voice-levels, a small amount of camera-noise could be heard through the monitoring speaker, but at frequencies which did not record.

In photographing the picture component of the test, substantially standard 35mm. lighting technique was of course used. However it was found necessary to make some compensations in lighting to offset the differences between the negative processing in 35mm. and the automatically-controlled reversal-processing of the 16mm. In this, as is well known, the flashing or second-exposure light is, in the Eastman reversal-processing system, automatically controlled by a photoelectric cell. For amateur use, this automatic control is a definite advantage, for it can do much to equalize errors in exposure.

But for professional use it was found that this control was a definite disadvantage, as it tended to "print up" scenes that had been intended for low-key or effect lightings. Under some circumstances this control can be switched off, and the film given strictly normal, uncompensated processing. Where this cannot be done, the makers of these tests advise the use of lightings that are considerably flatter than normal, with a considerably smaller range of contrast between highlights and shadows.

Within these limitations, however, the substandard tests proved to be a completely accurate guide as to the picture possibilities of the players tested. Gregg Toland, A.S.C., who directed the photography of "The Outlaw," summarized the situation excellently when he remarked, "Granted always that the photography and recording of such 16mm.



tests are handled by adequately skilled professionals, they can be as technically accurate as the average 35mm. test. There is, moreover, the very great advantage of economy on the side of 16mm. In the 16mm. tests made for "The Outlaw," we estimated that the saving, as compared to 35mm., was approximately 90%.

"That means we can make much more exhaustive tests using 16mm. sound and picture than would be practical using 35mm. More tests can be made of more players; more footage can be exposed, and more time and care given to the making of each test. And these tests have proven that we can learn as much from 16mm. sound tests as we can from the average 35mm. test.

"Of course, if the tests are to be conclusive, every detail must be handled with the same thoroughness and technical skill that would be given to 35mm. There can be no amateurishness in either method or personnel simply because 16mm. cameras are also used for amateur movie-making! But if professional care is exercised, I believe 16mm. sound tests can become a really valuable adjunct to modern production."

Director Hawks is even more enthusiastic. "Really comprehensive tests," he says, "have become an increasingly essential part of preparing for a modern production. But with today's mounting costs and diminishing returns, the producer or director of the average picture is all too often forced to economize on tests. He shoots fewer of them, and those he does make are likely to be shorter and less searching.

"This is natural; when you're faced with the fact of a fixed budget, you hesitate to make a 35mm. test you know will cost from \$500 to \$600 or more.

16mm. in action making a test of Jack Beutel and Leatrice Joy Gilbert. (Photo by Maurine.) On opposite page, two of the 16mm. tests which won Jane Russell and Jack Beutel the leads in Howard Hughes' "The Outlaw."

"But if you can make that same test for, say, from \$60 to \$75, it's an entirely different matter! You realize the advantage to be gained—you make that test, and benefit by it. Moreover, savings like that enable you to stretch the amount budgeted for tests to include many more tests than would otherwise be possible. All of us benefit from that sort of economy — producer, director, cinematographer, sound engineers, and, naturally, the players themselves.

"There are a number of other, less obvious, advantages to the use of 16mm. sound-films for testing purposes. One of the most important of these is the psychological effect on the player. No actor can help being at least a bit nervous when making a test. So much can hinge on it—a coveted part, needed employment, even, as in the case of these tests made for 'The Outlaw,' an entire career. Of course that nervousness hampers the actor, even if he is an experienced troupier and protected by the security of a contract. It can and all too often has so badly frightened an inexperienced newcomer that he can't do nearly as well in the test as he would in the part itself. Of course we try to make allowance for this factor when directing and studying tests, but anything that can be done to minimize the nerve-strain on the test-set is an advantage all around.

"And there's something about the simple fact of using 16mm. which definitely does minimize this nerve-tension. Maybe it's the fact that even a profes-

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Filming A Documentary In Mexico

By MARK MARVIN

As Told to Robert B. Konikow.

WORKING in Mexico ten months is an experience well worth having. Any preconceived ideas of a primitive and unintelligent country that you might have would have to be dropped if you spent as much time as I did working and living with some of the least educated of the Mexican people.

We went down to Mexico to shoot a story by John Steinbeck, telling of the struggle between modern medicine and ancient Aztec witchcraft which was taking place in every village off the main road, forgotten by the onward rush of civilization. Herbert Kline, maker of the documentary films "Crisis" and "Lights Out in Europe," and now a producer-director at M-G-M, was producer-director of our outfit, with his wife Rosa Harvan Kline as associate producer, and in charge of still photography. Alexander Hackensmid, who photographed Kline's previous films, handled the cameras. The rest of our

The author, Mark Marvin, acted as production manager during the making of "The Forgotten Village," the celebrated John Steinbeck documentary film of Mexican village life. He is now in New York, producing short-subjects for Clarion Pictures. The film itself is scheduled for early release.

crew were native Mexican technicians, surprisingly well-trained and extremely helpful.

Our equipment was simple. We were limited to a production budget of \$35,000 for our Mexican trip; that had to include a car, extra camera equipment, traveling and working expenses, a Mexican crew on a union basis, and so on. Since we expected to go beyond the reach of power lines, it was necessary for us to take our own generator. We had five Eyemos, of which two had turret lenses, the other three being single-lensed, and one DeBrie, all cameras using 35mm. film.

Our lighting equipment included none of the elaborate apparatus which generally comes under the heading of "professional." Such a set-up would not only be bulky, but would overtax the power of our little generator. We used ordinary photofloods in simple reflectors, of the type sold for home use. The brilliant Mexican sun, directed by reflectors, furnished enough light for outdoor scenes. Incidentally, Mexican sunlight has peculiar photographic qualities, due chiefly to the altitude and the

thin air. Entirely different exposure-ables must be used. We brought along 40,000 feet of film, mostly Plus-X and Double-X, but needed more before we finished. Finally, we had the usual supply of tripods and other standard equipment.

We got down to Mexico in the last week of April 1940, to film some background material. Mexico was preparing for what looked like a bitter presidential campaign, and we thought we might run into trouble, especially on Election Day. We did get stoned and even shot at, but fortunately nobody was hurt, and we got some splendid pictures. Meanwhile we traveled back and forth, in various parties, over the central Mexican plateau, looking for a suitable location, one which was still backward and primitive, still untouched by the recent modernization efforts of the Mexican government.

After some weeks of this, which included some 12,000 miles of driving, we found an ideal spot, within an hour's drive of Mexico City, but off the main roads. Actually, we used several villages in one district, since certain sections of each were better for various scenes.

Our reception in Mexico City, both from governmental officials and from trade union leaders, was more than cordial. The reputations of Steinbeck with his "Grapes of Wrath" and Kline and his European documentaries had preceded us, and gave assurance that we intended to present an honest and sympathetic portrayal of Mexican problems. It was not necessarily desired that we show only the best side of the country, for in fact our story centered around the most primitive and backward part of the population. They merely wanted us to make an effort to understand the people, to present them honestly. Actually, it helped when they learned that we were not from any of the Hollywood companies. There is a definite and justifiable resentment against the way Hollywood has pictured the average Mexican.

People unfamiliar with Mexico might have expected to meet the traditional Latin sloth and "manana" attitude, but in reality we found less red tape there than we had encountered in offices in our own United States. We stated our wishes, were able to see the right people without undue delay, and were informed of their decisions immediately. It was amazingly simple. Trade union officials were particularly cooperative. Once our purpose was explained, they heartily approved and made every effort to smooth matters out. The union crew that they assigned to us was much smaller than that they would have demanded of a Hollywood company, and smaller, I believe, than they required even of a native company. We were grateful for that, although it is only fair to say that had they insisted on just one more man, it would have been beyond the capacity of our budget.

With that settled, and with our location picked out, the next step was casting. This proved most difficult of all. Our story demanded a backwoods village, out of touch with civilization, which in turn implied that the native Indian residents were illiterate and uneducated. This definitely did not mean that they were stupid or unintelligent. On the contrary, we found them extremely quick to learn. For example, many of these people had never even seen electricity, never heard a radio. Yet within a week two Indian men learned how to connect the generator, wire our lights, and operate the jacked-up car to keep them going steadily.

Casting, however, remained a problem. At first the natives thought acting before the camera quite silly, and were afraid of the ridicule of their neighbors. They were quite willing to be photographed at their work, but stopping serious labor to play before our lenses was quite another matter! We were afraid that we would have to wait for some professional actors to finish up some work at their studio before we could start, but while waiting we tried to break down the local prejudice.

The women didn't want their children to act sick before the camera, less they should actually become ill in consequence. A great deal of the prejudice, incidentally, was started by some of the richer peasants who were afraid that our standard of pay would spoil the men who worked for them. One village held a mass-meeting to persuade the village elders to refuse us permission to work there. Arguments went back and forth; we were suspected of being government agents who wanted to take the land away, and even of wanting to film the women naked in the church, of all places!

Other peasants came to our aid with arguments no more pertinent. One man claimed that we must be good people because we started work at sunrise, like everyone else, and besides, we had honest faces. Perhaps the most telling argument was that we were always giving the children quintos, or Mexican nickels, if they would wash their hands and faces. At any rate, we were allowed to stay.

That still didn't get us our cast. We finally got a good start when we found some natives who had had some contact with gringos and civilization. The mother of our story was played by a woman we found selling flowers to tourists, and the father by a man who had once worked as a night watchman in one of the studios, and who was thus almost a professional. A few children were obtained from a Government boarding-school.

We took our cast back to the village, and after a few days of getting acquainted, things became much easier. The villagers saw people like themselves working without harm or shame, and some agreed to help. The most valuable volunteer was the local curandera or

herb-doctor. This was a leading role, and Trini proved a capable actress, and an excellent advisor on local customs.

With the cast complete, we could start to film. At first everyone had a tendency to overact, but after being imitated by Carlos Cabello, our Mexican assistant director, they soon learned to behave naturally before the camera. It was often difficult to get them into the mood of a scene. For example, one important sequence shows a woman in labor. The curandera is applying the ancient Aztec method of forcing the baby out with a shawl wrapped tightly around the mother. The women would start to act, the cameras would roll, and then in the middle, the women would giggle with embarrassment. Doing these things before strange men seemed funny to them. Pleading and scolding didn't help. Finally, Kline asked them to tell us about women they knew, children or sisters or friends, who had died in childbirth. As they spoke, they became serious, the whole atmosphere changed, and they were ready to play the scene. The curandera forgot the cameras and lights and began the ancient Aztec birth chant. The scene became real.

Making a film in Mexico is fascinating work. It must be handled with dignity, because the uneducated Indians are far from stupid; they immediately detect and resent any trace of condescension. Treating them as equals, on a man-to-man basis, we found them very friendly and helpful. They saved us from making serious blunders in our representation of folk customs, and were very patient with our attempts to understand.

One very important factor in getting along is an ability to speak Spanish. You need not speak the language well, but you must make the effort. The Mexicans have seen too many gringos coming into their country as if they owned the place, and behaving as if the natives were ignorant nobodies. Some business-men, many of them Americans, have spent years in Mexico and refused to learn the language of the country. Naturally, this attitude causes resentment, just as it would in our own country, whereas an effort to talk in their own tongue goes a long way in securing cooperation.

We found Mexican technical facilities of high quality. There are two well-equipped studios in Mexico City, which can handle almost any type of production. Laboratory work is first rate. It is slower than in our own labs, but ranks nearly as high in quality. The native technicians, cameramen and so on, supplemented by a few Americans working there, are responsible and careful.

Mexico offers scope for picture-taking of wide variety. Mexico City itself is a modern metropolis, with all the problems that confront any large city—crime, traffic, housing, engineering—and almost any drama or comedy can be



Above: on location in a village square; below, Mexican peon school children proved appealing actors; middle, wherever possible, the sun and reflectors provided lighting; bottom, Trini, the herb-doctor, treats a sick child. On opposite page, filming an interior scene: Hackensmid and his Mexican colleague, Augustin Delgado at camera; to right, Director Kline.

placed in such a setting. Outside of the capital city, there are fascinating subjects for films, both semi-documentary

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"Hollywood's Own" Film Unit Volunteers To Film The Navy

By WILLIAM STULL, A.S.C.

A MEMBER of the German General Staff has been quoted as stating that "the nation best equipped photographically will win the war." Still and motion pictures for technical, tactical and historical record purposes, reconnaissance, instruction and public information have become vitally important factors in preparing for and waging modern warfare.

In the present national emergency, the United States Navy is already well on its way to having the strongest and best-prepared photographic arm of any of the world's military services. Thanks to the patriotic foresight of a small group of Hollywood's film leaders, the

Navy has acquired a tailor-made photographic unit composed, not of untrained, if enthusiastic, snapshotters, but of seasoned, studio-trained veterans of professional cinematography, sound-recording, laboratory-work and allied crafts. Close to a hundred of these men are already in active service with the Navy afloat and ashore, and others are awaiting the call to duty, meanwhile training further replacements in sailorlike subjects.

The idea of forming "Hollywood's Own" photographic unit for the Navy originated in the fertile celtic mind of Director John Ford, ably seconded by his close friends, Director of Photography Gregg Toland, A.S.C., Screenwriter

A. J. Bolton and Sound Engineer E. H. Hansen. Over a year ago these four formulated plans for their project, and presented them to the Navy Department. When, as might be expected, official approval came from Washington, recruiting promptly got under way for the formation of the world's most remarkable volunteer military unit.

Every man of the organization is a volunteer—and every man a trained specialist in some phase or other of motion picture or still photographic practice! Most of them have, as well, nautical backgrounds of previous service with the Navy or Merchant Marine. Unique it is, too, in that the unit's roster contains no men of "common seaman" rating; due to their specialized training, its enlisted members hold Petty Officer rating as Photographers, First, Second or Third Class, or Chief Petty Officers (Chief Photographers) and so on. Truly, an organization of specialists!

The Volunteer Photographic Unit, as presently constituted, comprises nine divisions, each headed by a commissioned officer, usually of Lieutenant's rank and in most instances an A.S.C. Director of Photography, seconded by an Ensign and a Chief Photographer, and filled with the necessary enlisted personnel. Each division forms a complete camera unit, with men trained in the operation of all types of cine and still cameras, laboratory processing, and the like, with in most instances a full sound-recording crew, as well.

Director Ford—now Lieutenant-Commander Ford—skippers the outfit, with Lieutenant-Commander A. J. Bolton as Executive Officer and Lieutenant-Commander E. H. Hansen in charge of the sound section. Among the Division Officers may be mentioned Lieutenant Gregg Toland, A.S.C., Lieutenant A. L. Gilks, A.S.C., Lieutenant Joseph H. August, A.S.C., Lieutenant Allen Siegler, A.S.C., Lieutenant Harold Wenstrom, A.S.C., and Lieutenant Sol Halprin, A.S.C., and others.

During the past year, the members of "Hollywood's Own" have been undergoing intensive training for their specialized service. Instruction sessions have been held weekly, sometimes on studio sound-stages, and sometimes in the Los Angeles Naval Reserve Armory, for indoctrination in Naval routine, study of technical and tactical subjects connected with their work, and specialized practical training in their cine-technical specialties. In this connection, it must be pointed out that in active service, these men will be expected to be proficient with all of the various types of photographic equipment used in the Service, including not only studio-type Mitchells and Bell & Howells, but newsreel-type Akeley and Wall cameras, Eyemo and DeVry hand-cameras, and the like, and able if necessary to photograph, develop and print their cine-films and stills in the field or aboard ship.

These training-sessions have been interspersed with week-end training cruises aboard the seagoing yachts owned by

several of the members, or put at the unit's disposal, and by carrying out of definite photographic assignments afloat and ashore. Recently, for example, the enlisted men of the unit (who will normally, under the direction of the commissioned officers, form the operative crews of the camera and sound units) were assigned to make a complete film of the mobilization ceremonies and induction into service of the newly-formed California State Guard, held at the Santa Anita race-track.

Working on this "shake-down" assignment with no help from their A.S.C.-member commissioned officers, and with only the briefest of instructions, the enlisted camera-crews were sent out to make this film as best they could. The results proved that in these crews the Navy has gained a group of capable photographic teams. Each section "covered" its own phase of the activities, doing so thoroughly and efficiently. The film was processed, and edited into a complete 1000-foot picture, with sound, which is now being shown throughout the state to stimulate recruiting and interest in the Guard.

Camera, sound and lighting equipment, as well as stage-space and all necessary facilities, have been provided for the Photographic Unit's training activities, without charge, by the studios and by such equipment firms as Faxon Dean, Inc., and others.

The purpose of the Naval Volunteer Photographic Unit is not, as might be expected, to provide a slim nucleus of trained picture-making personnel who could be called to active service and in turn serve to train larger groups of regular Navy personnel. Instead, according to present plans, the personnel of each of the Unit's sections is to be kept together as a unit, and when taken into active service form a complete, mobile picture-making unit capable in itself of taking full responsibility for any Naval film-production activities wherever they may be needed.

At present, close to 100 of the Photographic Unit's officers and men have already been called into active service—among them Lieutenant-Commander Ford and Lieutenants Gilks, Siegler, August, and Wenstrom. While the exact location and nature of their assignments is of course a military secret, it can safely be said that their work has already taken them very nearly everywhere the Navy's far-flung activities warrant the making of pictures. You'll find them in Washington, and at the Navy's training stations in San Diego and Pensacola; in Panama and Pearl Harbor, and a variety of lesser-known places whose names are known only to the tactical experts of the Bureau of Navigation, but in which some film-worthy activity is going on. One crew of an officer and five men has even flown to war-torn England, to learn from first-hand observation how the photographic, and particularly the cinema sections of Britain's Royal Navy

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Lt. Gregg Toland, A.S.C., instructs in camera-operation. On opposite page: A section sets up for ship-board filming.



Lt. Harold Wenstrom, A.S.C., supervises filming a model airplane.



Lt. A. L. Gilks, A.S.C., illustrates a point with a model destroyer.



Lt. Joseph August, A.S.C., holds a round-table discussion with his section.





A British Camera - Ace Films The War In Africa

By CHRISTIANE BORRADAILE

EDITOR'S NOTE: As more and more of Hollywood's cinematographers are being called to active duty with the photographic sections of the U. S. Army and Navy, there is increasing interest in the activities of wartime cinematographers. A former member of the A.S.C., Osmond H. Borradaile, one of England's most distinguished cinematographers, responsible for the location sequences of such outstanding films as "Elephant Boy," "Drums," "Four Feathers," "Thief of Bagdad," etc., is now serving as a cinematographer with the British Army in the Near East. From his wife, the author of this article, we obtained this timely and interesting picture of the activities of a present-day military camera-ace.

Q UITE a while ago, I remember reading in *THE AMERICAN CINEMATOPHOTOGRAPHER* a query about Osmond Borradaile, my husband. A friend of his was anxious to hear about him. Did my husband then answer, and write that he was somewhere on the other side of the Atlantic, shoot-

ing on such films as "Drums," or "Four Feathers," or "Thief of Bagdad?" I do not know. But now that greater events have temporarily taken him away from the motion picture industry, I feel that perhaps the friend who enquired about him—and perhaps others, too—would like to hear of his activities.

The first months of the war found him still in the studio world of Great Britain's film centres. As all know, those first months were still months of relative peace for the island, and my chivalrous husband soon hated the slow pace of the Home Defense unit which he had joined at the first call. His duties required him to patrol the then most peaceful lanes and fields around our home in England. He used to carry his own hunting-rifle, not only to stress

his determination to act in case of need, but also because the Home Defense unit or our peaceful village had but four guns with which to arm forty men. I still suspect that his most sincere wish during those days was to have a chance of potting a German plane, even if it should mean the wrecking of his beloved "den."

It would at least be action, and justify his nightly strolls in the moonlight!

But as no such treat was granted, he was delighted to get leave from the Home Defense to hop to Holland, where he was assigned to photograph some scenes of "Foreign Correspondent."

Holland was still then a free country. Nevertheless, on his trip to Holland, my husband became a victim of the war. Nothing glorious however, not at all what he had dreamt of! The freighter on which his hired camera equipment was gleefully crossing the Channel was sunk, and a Court of London made him responsible for the loss of said equipment. So this, together with a day in jail when the Dutch became unreasonably suspicious of a foreign cameraman, has somehow marred his recollections of pre-war Holland!

The picture that took him back to Canada, his native country, was "49th Parallel," his last picture as a civilian cameraman, for as soon as his work was completed, he sailed back to England, this time in one of the United States destroyers, the *Broadway* where he was assigned to make a short, which, however, so far has been kept by the Ministry of Information.

On landing, he proceeded to approach the qualified authorities to enlist—and succeeded. So, as Captain Borradaile this time, he sailed again to Africa, where he had made so many films. A very uneventful trip as he writes:

"Already, I have been over a week afloat, and as usual have enjoyed every moment of it, but my voyage by boat is only about half finished, so there is time for anything to happen. We had several alarms for aerial attacks which kept me on my toes on the bridge with camera all set, but the Jerries failed to come within shooting distance. The Captain swears I am disappointed at not having been bombed."

Without any excitement worth mentioning, he landed in Nigeria, thence trekked to Egypt where the headquarters of the Army Film Unit is. After flying trips to Uganda and Aden, he was sent to Abyssinia where he photographed the part taken by Haile Selassie's Regular and Patriot Armies, making a thirteen-minute short called "Lion of Judah" which had its premiere in Cairo and which should be soon generally released in this country. This piece of work brought him some military honors, as he writes:

"General Wavell and General Auchinleck shook my paw and congratulated me for "Lion of Judah." It is not what the film should have been, but they seemed pleased."

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A FEW months ago Director Rouben Mamoulian, writing in *THE AMERICAN CINEMATOGRAPHER*, described how in directing "Blood and Sand," he turned to the Spanish "Old Masters" for inspiration and guidance in his efforts to picturize in Technicolor a modern Spanish story. He remarked that a country's painters express on their canvases not only the physical form of their country's scenery and people, but the spirit—the dramatic mood which is sensed, rather than tangibly seen, and which is the thing which more than all else sets one region apart from another. He very correctly pointed out that careful study of a country's or a period's paintings can be of inestimable value to the director, cinematographer or art-director seeking to recreate that place or period in a dramatic film.

But if that study of a land's paintings is helpful to makers of dramatic films, it is vital to those of us who are engaged in making short-length travel-reels. For our task, as I see it, is not merely to set up a camera and put on film a series of moving picture-postcards of a country, but to try, at least, to capture for our audiences something of the underlying spirit and character of that region. And painters reflect a land and its essential character as no others can. An artist studies his subject-matter, his set-up, and his lighting and color effects with infinite care and patience. And by close study of what these painters, who know the country and its people far better than any travelling filmer can have seen, we as workers in "motion paintings" can not only improve our pictures artistically, but come closer to reproducing the emotional character of our subjects.

This may sound like an impractical theory, but I have repeatedly put it to practical use in making successful travel-films. Years ago, while filming Holland in Technicolor, I began by studying the paintings of Vermeer of Delft as a guide to all the scenes we later shot in Delft itself. A sequence on the Dutch fishermen at Volendam was a direct copy, in motion, of a famous Rembrandt painting in the Rijksmuseum in Amsterdam, except that I tried to translate the subject-matter from Rembrandt's period to our own, using the hardy fishermen of today instead of the burghers of Rembrandt's time. Other scenes of Holland's tulip-fields traced their inspiration to the way other Dutch painters—contemporary as well as past—had depicted that phase of their loved countryside.

More recently, when last year my work took me to British Columbia, I immediately sought Vancouver's Art Gallery. There I found examples of the best work of modern Canadian artists. From them, the finest scenery and the most picturesque locations became an easy matter of routine in the filming. They pointed out the true character of the country and its people as surely as Sibelius' music points out the character of his own Finland.



Travelogues Can Be "Motion Paintings"

By RAY FERNSTROM, A. S. C.

There are other things, too, that can and should be done to make our travel-films truly "motion paintings." Foremost of them is probably the use of motion—not merely motion in the conventionally accepted sense of the word, but true cinematic motion which, in the hands of such outstanding artists as Eisenstein, Griffith, Julien Duvivier, Rouben Mamoulian, Fritz Lang, Walt Disney, Reinhold Schunzel, and others, has made the motion picture a unique visual art-form.

During the many years that have elapsed since the motion picture travelogue began to supplant the old-time lantern-slide "travel-talk," too few of us who as either directors or cinematographers have been associated with

travelogue filming have recognized this. The static influence of the still-picture lantern-slide and picture-postcard still dominates a majority of our travel short-subjects. We travel to a foreign land to make our picture; we equip ourselves with all the added bulk and complication of a motion picture camera—maybe even a 125-pound three-film Technicolor camera with all its accessories—because we want to make *motion pictures*.

And what happens? Nine times out of ten we bring back a series of views of that land which are only the slightest degree removed from being still-pictures! True, the leaves ripple in the wind, rivers flow, people move,

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What A Modern 16mm Business-Film Studio Is Like

By IRVING B. DYATT

Photomontage by Bill Straley

IN Hollywood's studios, the general conception of a 16mm. commercial movie organization is that it probably consists of a young man with a home-movie camera, a couple of lights, and maybe a projector. Nothing could be more mistaken: for although such small-scale "producing" units do exist around the fringes of the growing business-film industry, today's major 16mm. commercial producing organizations are becoming in all essential details, replicas of Hollywood's own studio organizations. Some of them actually have better facilities and resources than many an independent theatrical-film producer, though of course the commercial studios work largely, if not entirely, in 16mm.

One of the best-known and most completely equipped of these 16mm. studios is that of the Calvin Company, in Kansas City, which during the past ten years has probably done as much as, if not more than any other producing organization to bring direct 16mm. to its present position as the preferred medium for business and educational movies.

The organization is housed in a single large structure which includes a sound-stage approximately 45x60 feet and completely treated for sound-recording purposes. Not a big stage by Hollywood standards—you could lose it in a corner of Warner's Stage 21—but quite big enough to house the home, store and office interiors which make up the average commercial movie. In this same building are the general offices, projection-theatre, sound recording and re-recording rooms, film-laboratory, stock and storage room, and a well-equipped machine-shop for maintenance and special mechanical work.

On the photographic side of the organization, only the 16mm. camera-equipment would differentiate it from the equipment of a well-equipped Hollywood studio. Instead of the familiar Mitchells, the business-film organization makes use of the Berndt-Maurer 16mm. professional camera and the ubiquitous Cine-Kodak Special which, due to its precision, convenience and portability has become the universal commercial-film camera. All of these cameras are housed in special blimps, designed and built by the Calvin engineers, when shooting synchronous sound sequences.

The lighting equipment comes from Hollywood's Mole-Richardson factory. "Senior" and "Junior" Solarspots, equipped with CP globes for Kodachrome filming, are used in the studio, and Mole-

Richardson "Cinelites" are employed for the inevitably extensive location filming in customers' factories, for the same reasons of portability and efficiency that impelled Dan B. Clark, A.S.C., to select them when he filmed the Dionne Quints for 20th Century-Fox.

All of the firm's sound-recording is by the direct 16mm. method. A special Berndt-Maurer studio recording channel has been installed for making sound in the studio. Berndt-Maurer double-system 16mm. variable-area recorders are used, coupled through an amplifying and patching panel which would be right at home in any 35mm. major-studio recording department. In conjunction with this are sync projectors, film-phonographs or re-recording heads, and disc turntable equipment which permit the use of completely professional recording and re-recording technique in re-recording 16mm. sound-tracks and sound-effects into a final mixed track to give smooth professional results.

I believe that this is possibly the only place in the country where the practice of making an original recording and then using this track for re-recording to produce the final track for printing is used in direct 16mm. production. Anything that is possible in normal 35mm. recording technique (with as yet the exception of multiple- and control-track systems like Fantasound and Vitasound!) can be and is done here in direct 16mm. sound, and the results compare favorably with all but Hollywood's best Academy Award 35mm. recording jobs.

Synchronous sound is of course shot by the double-system method, exactly as it would be in a Hollywood major studio. Pre-recorded songs, and the like, filmed to a synchronized playback, and post-recorded songs, sound-effects, music, and so on, are handled in wholly professional routine.

For scoring purposes, a special Robert Morton pipe organ has been installed in the studio. Special music is written for and used on all of the firm's "higher budget" productions. In several instances songs were specially written for use as theme-songs of commercial productions.

The laboratory is an essential feature of the company's activities. It is regarded as one of the finest 16mm. processing-plants in the country. An automatic developing-machine, as complete as any in Hollywood, handles not only the processing of original and dupe negatives, positive prints and sound-track, but also

commercial reversal-film processing; it is the authorized processing-station for Agfa-Ansco 16mm. and 8mm. film throughout the middle-west.

A prime essential to the production of professional-quality 16mm. commercial films is the availability of printing equipment and skill capable of turning out first-class prints of both sound and picture. To make this possible it was necessary to create a considerable number of special machines which, while they have their counterparts in Hollywood's 35mm. practice, have not been generally available in the 16mm. field.

Among these is a special printer which, like Hollywood's indispensable 35mm. optical printers, enables them to make all types of lap-dissolves, fades, wipes, split-screens and other tricks in the laboratory, with either black-and-white or Kodachrome film. As Hollywood has found, such equipment makes it unnecessary to do this special work in the camera at the time of shooting. It goes a long way toward speeding and simplifying production. Since the Calvin organization has had this printer, it has for the first time made direct 16mm. production as flexible in this respect as the best professional 35mm.

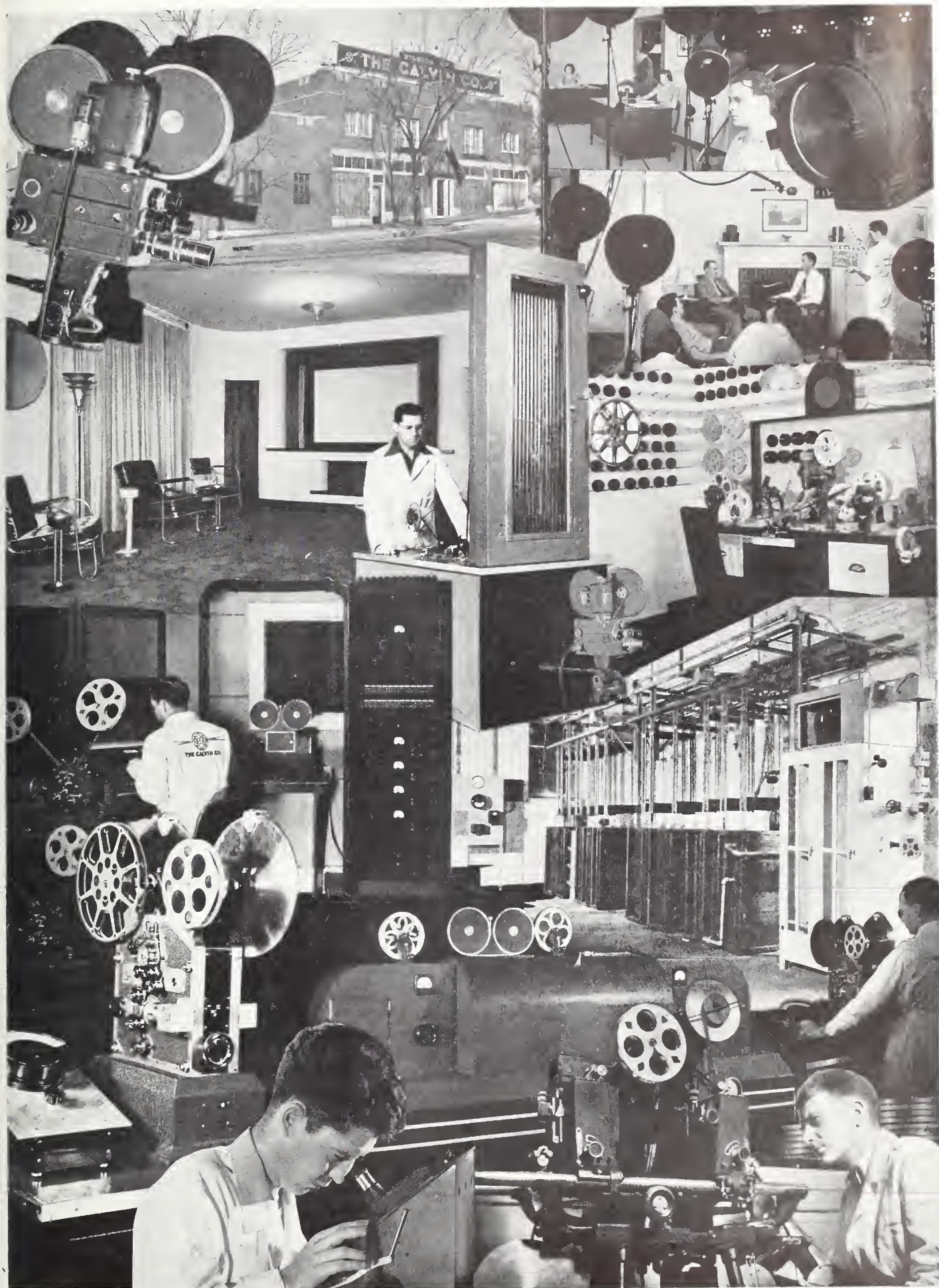
This special printer is used for either color or black-and-white printing, and between recent improvements in 16mm. emulsions and the skill of Calvin laboratory technicians, it is possible to turn out color and monochrome dupes which show no more contrast than would be seen in any direct contact-print.

Another thing in the Calvin laboratory which should be of interest to all 16mm. workers is the Sensolite Testometer used for making both light-tests and sensitometric strips. Such machines are not uncommon in 35mm. practice, but have been practically unknown in 16mm. The sensitometer is of course used for making the control-strips necessary in controlling the processing of sound-tracks and other monochrome film. The light-test mechanism is used in timing both color dupes and monochrome prints, dupe negatives, and the like. It has proven especially valuable in making dupe negatives which are balanced to equalize exposure variations in the original to such an extent that prints from these dupes can often go through at a single printer-light setting. This particular instrument was first conceived by Lloyd Thompson and then developed and built by Harry W. Baker, the firm's special equipment engineer.

Equally valuable is the special one-to-one optical sound printer which was built especially for Calvin by the Berndt-Maurer Corporation. It is used in printing all sound-tracks. This printer eliminates the slippage problem so often encountered in contact-printing, and gives sound-prints from a 16mm. original with practically no loss of quality.

One cannot help wondering how an organization like this came to be established in the middle of the United States, rather than in Hollywood, New York or

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Aces of the Camera X: ROBERT PLANCK, A.S.C.

By WALTER BLANCHARD

HIDDEN away in the files of the American Society of Cinematographers is a letter, dated some seven years ago, in which an outstanding veteran of the camera profession proposed a younger, and none too well-known cinematographer for membership in the A.S.C. "This man," he wrote, is sincere, alert, and efficient—a fellow who really uses his head all the time. I am certain that within a very few years Robert Planck will be recognized as one of our outstanding cinematographers."

Today, if you've seen such recent MGM releases as "Escape," "A Woman's Face," or "When Ladies Meet," you'll realize how accurate that prediction was. Those pictures were photographed by Robert Planck, A.S.C., who has in an unusually brief space of time won for himself unquestioned ranking high among the industry's foremost masters of the camera.

In an industry like this, teeming with an oversupply of skilled cinematographers, there must be more of a reason for a success-story like this than the

mere ability to light a set well or to plan effective compositions. In Bob Planck's case, the reason is not hard to find: he has a superlative skill in photographing people. Not merely presenting them in photographically excellent close-ups, but somehow capturing the personality behind the face. You might call him a cinematic personality-portraitist without being too far from the mark—though he would undoubtedly resent such a press-agentesque tag. Certainly he is the exact opposite of the deliberately "arty" type of still-photographer who usually rejoices in a trademark of that type. Anyone meeting Bob Planck on the street would probably take him for a successful doctor or lawyer rather than for the artist he really is.

Planck's entire approach to his work is based on the fact that to him a cinematographer's job is, above all else, the task of capturing not merely the physical appearance, but the personalities of the stars he photographs. "After all," he says, "it has been proven often enough that the foundation of a film-actor's success is not appearance alone, nor acting ability alone, but the combination of these qualities with a clearly defined personality. Very few, if any, of our top-flight stars have been flawless beauties; fewer yet have made their success on acting technique alone, unsupported by personality-appeal.

"Therefore it seems very clear to me that a major part of the cinematographer's task is to translate that personality to the screen. This is more—much more—than simply making a phototechnically accurate reproduction of a person's appearance: you've got to bring out that person's character so clearly that the audience sees and feels it is clearly as you do yourself.

"For this reason, when I'm assigned to photograph a star with whom I've not worked before, I try to make a point of getting acquainted with that player before we start shooting. I don't give much attention at that time to outward appearance; instead, I try to acquaint myself with the little characteristics that make that player an individual person. Knowing these, it is an easier matter, once production starts, to plan my treatment of that player's scenes—especially the closer shots—so that the camera heightens those characteristics. After all, cinematography is essentially a matter of creating a series of personality portraits on celluloid. If you've had any experience with still portraiture, you'll realize that portraiture isn't governed solely by photographic or artistic considerations, but by what the individual portraitist sees in his subject. And no two portraitists are likely to see all the same characteristics in the same subject. Every now and again some editor or publicity-man will have some five or six equally capable photographers make portraits of the same girl—and the re-

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Most of Hollywood's cinematographers are safely beyond draft age—but that doesn't keep them from patriotically volunteering their services in the national emergency. Called to the colors for active service with the U. S. Navy's Volunteer Photographic Unit this month are Lieutenants A. L. Gilks, A.S.C., Joseph H. August, A.S.C., Allen Siegler, A.S.C., and Hal Wenstrom, A.S.C. The call caught Al Gilks deep in the interior of Mexico, filming location sequences for Orson Welles' forthcoming picture starring Dolores Del Rio. Floyd Crosby, A.S.C., is flying down to take over the completion of the assignment.

Maybe it's going out on a limb, but we'd say William Mellor, A.S.C., has what the male half, at least, of the general public would call Hollywood's most enviable assignment. Just through Technicoloring "Malaya," with Dorothy Lamour, Billy's next assignment was "The Fleet's In," also with the delectable Dotty. He's probably filmed more pictures with the Sarong Siren than any other cinematographer in Hollywood—some people have all the luck, don't they?

But Billy's getting strong competition from Franz Planer, A.S.C., over at Columbia. According to one of the town's better chatter-writers, Lupe Velez, starring in Planer's current opus, starts each morning off right by planting a great big Mexican kiss on the man who keeps her looking lovely in the rushes!

We shouldn't tell this—but it's too good to keep. Joseph Ruttenberg, A.S.C., was late to work at MGM's film factory the other morning. Reason was that Joe had installed a new lock on the bedroom door the night before, and when morning came, it wouldn't work, leaving Joe and the missus locked in their second-story sleeping quarters. Joe called the police—then the Fire Department—and finally unearthed a locksmith who rallied 'round to unlock him out. And when the story got out at the studio, Joe receipted for an awful ribbing from almost everybody on the lot. Up to date, no comments have been heard from Head-man Mayer or the gate-man—but everyone else on the lot seems to have had something to say about it. And is Joseph's face red—!

Congratulations to Floyd Crosby, A.S.C., who is the very proud papa of a brand-new baby boy. The new cinematographer-to-be is named David.

Barney McGill, A.S.C., having a surprise reunion with an old friend, Director Gabriel Soria, up on a visit from Mexico City's booming studios.

Saturday afternoon sight-worth-seeing: John Arnold, A.S.C., football fan extraordinary. Johnny finds special delight in getting a seat deep in the heart of the section occupied by University of Southern California supporters—and rooting loudly for the opposing team!

A.S.C. on Parade

Bert Glennon, A.S.C., can lay claim to having filmed what's probably pretty close to an all-time record for long dolly-shots. This one, for a shot of marching cavalry in "They Died with Their Boots On," had the camera travelling almost a mile—5250 feet, to be exact. A 1750-yard plank track was laid, and along it sped a light camera-car, carrying two cameras which filmed the scene.

Did you know that the wife of Osmond H. Borradaile, who before going to England a dozen years ago was an A.S.C.-member back in the old F.B.O. days, was living in Hollywood "for duration," with her three-year-old, American-born daughter? With the family funds tied up in England on account of the war, and husband "Bordy" on duty in Iran with the British Army, French-born Mrs. Borradaile is trying to keep the home fires burning by teaching French. If any A.S.C.-members or their families need brushing up in this language, here's an opportunity to help a very charming lady.

Ray Fernstrom, A.S.C., dropping in to the A.S.C. office to say hello while on a flying visit between assignments. He just finished "British Columbia Sports," a Cinecolor short, and hops north of the border again to do a flying color-commercial for Trans-Canada Airways before starting some novelty shorts of his own in San Jose.

Memo to Henry Sharp, A.S.C.: that copy of Jackson Rose's "American Cinematographer's Handbook" you borrowed from THE AMERICAN CINEMATOGRAPHER'S Editorial desk was the last remaining copy of the Third Edition, so don't forget to bring it back! Besides, it had a very complimentary personal autograph from Jack, which we rather cherish. Anyway, Jackson says the new Fourth Edition will be out in a few weeks now.

Victor Milner, A.S.C., his chore of Technicoloring DeMille's "Reap The Wild Wind" over, slipping away to Texas for a visit with son Vic, Jr., an Army aviator.

Speaking of intrepid birdmen, Warner Bros.' "Captains of the Clouds" troupe is back from several months spent in Canada Technicoloring the activities of the Royal Canadian Air Force. Heading the repatriates are Byron Haskin, A.S.C., who directed the location-unit scenes, aerial specialists Elmer G. Dyer, A.S.C., and Charles A. Marshall, A.S.C., and Technicolor-ace Winton Hoch, A.S.C. Canada's a great country, they report—but the U.S.A. and particularly Hollywood looked mighty good to them when they got home!

Wonder why someone doesn't start

up an A.S.C. flying squadron? Just to name a few of the A.S.C. members who have won their wings, there are, beside Hoch, Dyer, and Marshall, such top-flight camera-and-plane pilots as Bert Glennon, A.S.C., John Fulton, A.S.C., Dewey Wrigley, A.S.C., Bill Daniels, A.S.C., Ex-R.F.C.-ace Billy Skall, A.S.C., Hal Mohr, A.S.C., Edgar Bergen, A.S.C., Sol Halperin, A.S.C., Douglas Shearer, A.S.C., and a host of others who don't tell us about their flying. And Associate Member Elmer Richardson was a Brooks Field instructor during the last war, and ditto Ted Curtis, a combat "ace" in France and now a Major on active service in today's Air Corps.

Phil Tannura, A.S.C., got a particularly big bang out of a recent request for an autographed picture from a Sergeant in the U. S. Marine Corps Motion Picture Section. Phil was a leatherneck sergeant himself back in 1915, and served with the Siberian A.E.F.

Stanley Cortez, A.S.C., and his charming wife, glimpsed in the Cinegrill sipping a cocktail before going across the street to catch the swell Technicolor job Ernie Palmer, A.S.C. and Ray Rennahan, A.S.C., did on "Belle Starr."

Glenn MacWilliams, A.S.C., Johnny Arnold, A.S.C., and Harry Stradling, A.S.C., at MGM, deep in a discussion of the merits of the new Norwood "Director" meter, commandeering Ye Ed as a model to show Harry just why the Norwood principle is more accurate than his own reflected-light meter. Harry, by the way, just inked a nice contract with MGM, and Glenn has been putting in some time on the lot, himself.

Ariel Vargas, A.S.C., very much on the job in Lisbon, Portugal. He not only keeps grinding out news-shots for Paramount News, but also keeps sending in new subscriptions to THE AMERICAN CINEMATOGRAPHER for friends in the Portuguese and Spanish film centers.

And John Dored, A.S.C., very much the good-will ambassador, doing a great job in South America organizing a comprehensive coverage of Latin-American News for the North American newsreels.

Charles W. Herbert, A.S.C., after a busy summer "Going Places" in Canada for Universal's short-subjects department, back for a look-see at his Montana ranch.

John W. Herrmann, A.S.C., F.R.P.S., F.R.S.A., "covering" the recent Army Manoeuvres in Louisiana for Paramount News, attached to 3rd Army H.Q.

THROUGH the EDITOR'S FINDER

THOSE of us whose daily lives are spent in the motion picture industry are in some ways in an unfortunate position. We are too close to it. We cannot see in its true perspective, the actual greatness of our own industry. We know it is a new art and a billion-dollar business. But most of us see only the little things around us—the irritating trivialities, the petty friction and mistakes that are bound to exist wherever the work of many strongly individual personalities must be coordinated. Like the man in the story, we cannot see the wood because the d—d trees block the view.

Once in a while someone says or writes something that can give us at least a glimpse of the greatly human side of what we are doing. Recently one of the leaders of our own industry, Producer Darryl Zanuck, speaking extemporaneously at a Senate hearing in Washington, gave voice to such an utterance. We've often disagreed with Mr. Zanuck, and we probably will again; but his words on this occasion should be read and remembered with pride by anyone who has any part—no matter how small—in making Hollywood's motion pictures, for he was speaking, not only for himself, his company or his fellow-producers, but for every one of us when he said:

"I am proud to be a part of this moving picture business. I go back and I think of what this little nickelodeon business has grown to and I cannot help but be proud, although I was certainly not one of the originators. But I recall the hours and hours and weeks and months and years—actually years of entertainment—that the people of the world have received from this industry. And it makes me proud. I look back and I can see Walthall as the Little Colonel in 'The Birth of a Nation.' I look back and see the covered wagons going across the plains in 'The Covered Wagon.' I look back and see John Gilbert in 'The Big Parade'; I see that girl on the truck when he kissed her goodbye—Renee Adoree—and he went away to the war. I look back, and it gives me a thrill when I think of Al Jolson in 'The Jazz Singer.' That was the first time that sound came to the moving pictures. I see George Arliss in 'Disraeli,' and I look back and recall picture after picture—pictures so strong and powerful that they sold The American Way of life not only to America, but to the entire world. They sold it so strongly that when dictators took over Italy and Germany, what did Hitler and his flunky, Mussolini, do? The first thing they did was to ban our pictures, to throw us out. They wanted no part of The American Way of life.

"I come down, right now, to the last minute, and I remember that great picture, 'Gone With the Wind.' I remember a picture of my own, 'The Grapes of Wrath,' and I remember the last speech of that Joad family. They had been

kicked out and bounced around and the whole world was against them; they were on the spot. But I remember Ma Joad turning to the old man in the flivver and saying: 'Well, things look mighty bad and everything is going wrong, Pa. But that's the way it is with the world. You have got to take the good with the bad; and we don't have to worry, because we are the people.'

"I remember those things, and I remember the enjoyment they have given; I remember the laughter and all that, and I am very proud. . . . I am sure that when the whole celluloid record is put before the world, the whole world, you are going to agree with the people of America who patronize us when they wish to and who stay away when they don't want to see the pictures; and we have grown only because the people have let us."

SOME of us, in both professional and amateur cinemactivities, feel that we've something to complain about during this international emergency. Supplies of all sorts of photographic and sound equipment—even some materials for set-construction—are limited by defense needs; what we do manage to get, we often wait for, and buy at increased prices. Manufacturing and advertising schedules have been pared.

It's inconvenient, all right. But we can be humbly thankful for one thing: none of the firms which supply our needs has as yet been forced to make the announcement, so often seen in foreign periodicals today, that "due to enemy action, the X— Camera Company regrets it is unable to make further deliveries for an indefinite period." May that time never come!

WE'VE often commented on the crushing load of responsibility borne by the Director of Photography during the making of a modern production. Whatever may be the importance or the cost of the production, whether a "quickie" or a multi-million-dollar superspecial, his is the final responsibility for translating the ideas, effort and investment of all the others into saleable form on the little strip of celluloid which goes to the theatres. Traditionally he is the one man in the entire production chain who cannot allow himself to fail. Producers can guess wrong—writers fall down on their scripting—directors mishandle scenes—actors "blow"—and no one thinks anything of it. But the man at the camera must do his work with unflinching precision.

This much is familiar. But it is not so generally appreciated that the Director of Photography is unique in that he must bear his load of responsibility *alone*. The producer has his associate and assistant producers and the director to depend upon. The writers work in teams, and can always share responsi-

bility with actors who misinterpret or directors who mishandle their scripts. The director shares his responsibilities with producer, writers, cutter and dialog-director. The players have a host of supporting aids—not only the director, writers, and the like (not to mention the Director of Photography!) but special coaches, dialog-directors, makeup technicians, hairdressers, technical advisers, and so on.

When in doubt, most producers can say, "I'll leave it to the director—or the writers—or the cutter." The director can say, "Well, I'll shoot it both ways, and let the producer and the cutter decide which is best." The cutter can leave it up to director and producer, and so on.

But the Director of Photography must make his own decisions—though they may affect the shooting of a fifty-thousand-dollar scene or a four million dollar production—and he must stand by that decision come what may. There is no one in the company with whom he can share those decisions, or ask, "which do you think would be best?" True, he has his technical crew—his operative cinematographer, his assistant cameramen, his gaffer and electrical crew. But they are there largely to do the physical work necessary in lighting and filming a scene. They cannot and do not intrude upon the mental side of cinematography—planning the lighting of sets and players, coordinating camera-treatment, lighting, camera-moves, compositions and all to enhance the dramatic mood of the action. This gruelling responsibility belongs solely and exclusively to the Director of Photography. Is it any wonder, then, that so many of these men seem prematurely aged by the tremendous nervous and mental burden they bear?

Isn't it possible that perhaps the practice so generally followed in making Technicolor productions, of having two Directors of Photography to share the burden, might be a worthwhile solution to this problem in the making of many of our more important productions even in monochrome? The fact that many pairs of top-flight Directors of Photography have "teamed up," successfully and harmoniously, in making Technicolor productions proves that it can be done. The fact, too, that on at least two occasions during the last few years it has been done in the making of outstanding monochrome productions adds to that proof.

We have attended the funerals of all too many outstanding Directors of Photography who burned themselves out prematurely by carrying the tremendous, single-handed load of photographing a modern production. If dividing things into a two-man partnership, with two equally capable Directors of Photography sharing the responsibility for filming an important production, would help minimize these unnecessary losses to the industry's photographic manpower, wouldn't it be well worth trying?

PHOTOGRAPHY OF THE MONTH

LADIES IN RETIREMENT

Columbia Production.

Director of Photography: George Barnes, A.S.C.

With "Ladies in Retirement" George Barnes, A.S.C., turns out a production which is in every way a worthy successor to his Academy Award achievement of last season, "Rebecca." Restricted somewhat by less spectacular settings and a much different mood, the present film lacks the photogenic sweep of its predecessor, but it is in every way Barnes at his distinguished best.

The entire production is played within the confines of virtually a single set—a small English cottage—and a single, stage-built exterior, but in spite of this somewhat limited milieu Barnes makes the picture anything but monotonous visually. Aided by the delightfully pictorial settings provided by David Hall and Lionel Banks, Barnes' compositions and lightings make every scene a pictorial delight. His treatment of the fog-swept exteriors is striking.

Throughout the picture Barnes makes eloquent use of the increased-depth technique pioneered by Gregg Toland's "Citizen Kane." The production was filmed entirely on Super-XX film, generally at an aperture of $f:5.6$, thereby obtaining crisp definition and extreme depth of field. Barnes shows a firm mastery of the new and difficult art of creating three-dimensional compositions for this new-day technique, handling the matter of composition with a delightfully sure hand. In strict truth, it must be stated that Barnes' compositions in this picture give an impression of greater sureness than was the case in the recent and very similar "The Little Foxes."

From start to finish a remarkable visual mood is maintained. This is established in the opening title—one of the most unusual seen in a long time, though perhaps a trifle lengthy and repetitious—and the initial production-shots, and beautifully maintained throughout the film's length. Without any suggestion of conventionally obvious melodramatic camerawork or lightings, Barnes invests "Ladies in Retirement" with an uncommonly every quality which greatly heightens the dramatic impact of the action. Both artistically and technically his effect-lightings are exceptional. It goes almost without saying, too, that his treatment of the players is also flawless. Barnes' photographic achievement is noticeably enhanced, too, by the fine co-operation of the laboratory staff, which provided a print well above the Columbia standard.

SUNDOWN

Walter Wanger Production; United Artists' Release.

Director of Photography: Charles B. Lang, Jr., A.S.C.

A few weeks ago we were privileged to see a reel or so of the scenes Charles

Lang, A.S.C., filmed for "Sundown." It whetted our appetite, and we felt uncommonly privileged to be able to attend a private, projection-room showing of the whole production in "first cut" form. It is one of the most spectacularly photogenic productions of the season. The locations, settings—even the weather—afforded Lang exceptional photographic opportunities; and the way he has risen to them makes one wonder why, indeed, he has so long been buried on routine Bing Crosby and Bob Hope comedies, when he is still the great cinematographer who won the Academy Award for "Farewell to Arms," and turned out the equally spectacular, though wholly different, "Lives of a Bengal Lancer."

In "Sundown," Lang is seen in his "Bengal Lancer" mood. His camerawork is high-keyed, crisp and virile. In the exterior scenes, aided by some of the most spectacular cloud-effects ever screened, Lang's camerawork is sure to win the plaudits of the lay critics. His compositions and filterings are outstanding.

But his interiors are, if anything, more interesting. Many of them show an exceptionally interesting lighting technique, combining the smoothness of the old-style non-directional "pictorial" lighting technique with all the advantages of the modern directional lighting methods. Some of the lightings, especially of the interiors in the officers' huts, fairly radiate tropical heat without at any time resorting to the exaggerated, washed-out highlights and inky shadows so often employed to suggest this atmosphere. His effect-lightings, both interior and exterior, are noteworthy, and extremely convincing. His treatment of the players—especially some of the character-lightings on the men—is another highlight of an excellent production.

Lang's treatment of the production leans strongly toward the modern school of crisp definition and great depth of field, without exaggerating this effect. The special-effects work—by Ray Binger, A.S.C., we believe—is generally excellent, though we recall one or two process-shots which could certainly be improved. The matte-painting in the final sequence (if this is retained in the final release cut) is excellently pictorial, though perhaps a trifle out of key with the mood of the preceding action.

The print we viewed was, so we understand, the work-print. If this was the case, a great deal of congratulation is certainly due the Consolidated Laboratory for an exceptionally fine job. We've seen many a major-studio release-print which was less perfectly balanced than this work-print.

BELLE STARR

20th Century-Fox Production (Technicolor.)

Directors of Photography: Ernest Palmer, A.S.C., and Ray Rennahan, A.S.C.

When Ernest Palmer, A.S.C., and Ray Rennahan, A.S.C., are teamed on a Technicolor production an outstanding example of fine color-camerawork is assured. "Belle Starr" is no exception. It is an uncommonly fine piece of work, as regards both the interior and the exterior sequences.

The photographic highlight of the production, to this reviewer's mind, at least, was the treatment of the many effect-lighted interior sequences, in which Palmer and Rennahan captured the atmosphere of the post-bellum Southern home's candle-lighted rooms more perfectly than we've ever seen them portrayed before. Their handling of the shadow-effects, especially, in these scenes was particularly convincing; there was a softness and depth to the shadows which perfectly captured the desired effect, giving an air of convincing reality and at the same time coordinating perfectly with the mood of the action. At the same time, these lightings are of unusual technical interest, for they appear to be keyed lower on the Technicolor characteristic curve than any we've ever seen previously. In that connection, there is interesting subject for debate in the way some cinematographers favor the practice of making effect-lightings well down toward the toe of the curve, while others prefer to have similar scenes placed comfortably along the curve's straight-line portion. The latter would certainly seem to be the safer course, and probably productive of richer blacks and a better gradational scale: yet the former method, as exemplified by these scenes, certainly could hardly be excelled for pictorial and dramatic effectiveness.

GYANDEV—THE LIGHT OF INDIA

Produced by Prabhat Film Co., Bombay;

Released in U.S.A. by Ram Bagai.

Director of Photography: A. V. Dutt.

For more than ten years we here in Hollywood have been hearing about what India's studios and technicians were doing in making movies. Now, for the first time, we have an opportunity to see for ourselves. Ram Bagai, an American-born Indian, has brought to this country a group of the better Indian productions of the last season, and is releasing them to American audiences.

If this film, which, we understand, played for nearly a year in one theatre alone in Bombay, under its original title of "Dnyaneshwar," is a fair sample of what India's creative technicians can do, the Indian Film Industry is to be congratulated highly. Technical faults there certainly are, and concepts which seem strange to American audiences; but when it is considered that the men who made this film do their work thousands of miles from any of the world's other producing centers, and have learned their craft largely by observation and personal experiment, "Gyandev" is an

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Australia's Amateurs Shoot A Slapstick Comedy

By JAMES A. SHERLOCK, A.A.C.S.

Photos by Vera Sherlock, A.A.C.S. and Eric Miller, A.A.C.S.

"QUI-EET, pleee-se: Camera! Action!"—then the whirring of 15 or more cine-cameras and the click, click of many more still cameras could be heard in a secluded corner of a large Australian Park situated close to Sidney. The only sounds that interrupted these mechanical noises came from the giggle boxes of 80 members of the Australian Amateur Cine Society and a stray Kookaburra bird who also seemed to enjoy the Keystone comedy being produced. Those people who were enjoying themselves "On Location" for the first time would not realize the problems that had to be overcome and the hard work previously done by a few serious and enthusiastic members before one frame of the picture could be exposed.

There were such things and people as *Synopsis of Story, Script, Director, Camera-Crew, Players, Location, Working or Shooting Script, Props, Property-Man, Costumes and Script Girl*, to be chosen.

Although other Australian Cine Societies have produced serious photoplays, members of the parent body working together as a club or in groups, have mostly interested themselves in comedies of the slapstick variety.

The reason for this may be that most of our members realize the limitations of amateur cinematographers in the world of photoplay production; and that our climatic conditions are such that

"Old King Sol," the natural light-source, blesses us with many bright days of sunshine.

When our scenarios contain interior shots, we find they take much longer to film for there are such things as proper wiring and current for our lights to be considered. Also, like most amateurs, we experience difficulty trying to obtain sufficient lighting-equipment whereby a long-shot may be sufficiently illuminated. Therefore, we are most fortunate that our Australian State is Smiling, Sunny, New South Wales, which has a climate not unlike that of California.

Practical experience with both studio and outdoor amateur photoplays has taught us that there are several rules observed by professional photoplay units that greatly minimize loss of time when "On Location." By adapting some of these to suit our own requirements, we have found that irritating delays are mostly avoided.

Before we go on location, there are many conferences between members of the production unit. These talks are most important if a smooth schedule is hoped for and annoying conflict of opinion and "post-mortems" between members of the film group on location are to be avoided, and avoided they can be if we prepare and organize.

After we agree on the type of story to be filmed, a *Synopsis* is written, preferably by a person knowing the limita-

tions of substandard cameras and amateur film players. This synopsis is an outline of the proposed film story but does not refer to the camera. It is simply written in story-like manner.

From this synopsis a *Film Script* is formulated, which divides the story into scenes marked in numerical order, camera positions being noted for each scene. A *Director* is now chosen; he should have the confidence of the film group, imagination, and tact; he should be able to lead and inspire people.

There is a lot of pleasure and relaxation to be derived from making an amateur movie when such a person is available, but many headaches and frayed tempers will result among a group of amateurs if the director does not understand the limitations of substandard photoplay production units.

Now we have our *Camera crew* to select. This bunch consists of a *Director of Photography* (Pardon me, you A.S.C. Guys), and one or two assistants who help with camera tape-measure, slate, exposure-meter, reflectors, etc.

The selection of *Players* may well be left in the hands of the Director and Cameramen. A little experience with amateur silent photoplays will convince us that it is *TYPES* that are required for the various parts; we are not able to spend hours creating characters with make-up like our professional friends. In fact, most amateur make-up jobs being what they are, the less make-up used, the better our people will appear on the screen. Most cities have Amateur Theatrical Companies or little theaters who are willing to cooperate with a film group; among these folk may be found *TYPES* with a natural flair for acting.

Now we have to look round for a *location*. If a choice is available, one near home is advised; then the group can start work early and finish fairly late in the day, but we also must make certain, when selecting an exterior location, that the path of the sun in the sky is such that sunlight is available in the morning and afternoon.

If the selection of the location is left to the Director and Cameraman, they will be able to visit the spot beforehand and arrange between themselves where each scene will be shot.

Then a study of the scenario on the proposed location will convince them that much time will be saved if they make a *Shooting Script*, whereby the story or scenario is not filmed in the order of scenes as written by the scenario-writer, but in a sequence more convenient for the production unit. On the opposite page is a practical scenario and shooting script written by J. Frank Brooks, A.A.C.S. A study of this will show why we filmed shots 2, 3 and 18 in that order, also why 2a was added.

Costumes had to be obtained for several of the players. These were hired from a masquerade and theatrical costume company; each person was pre-

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The Scenario The Working Script

COPS, CONVICTS and CUTIES ...

Scene 1: M.S. Dave and Bill, two convicts who have escaped from prison, still dressed in their prison clothes, are seen dodging from tree to tree. They suddenly stop.

Scene 2: M.S. Kath and Jean, two cuties in bathing costumes, are running towards the river, sea, or pool. In the foreground their clothes are neatly folded alongside a picnic hamper already set out on the grass.

Scene 3: M.S. Dave and Bill hurry towards hamper. Dave picks up the girls' clothes and Bill the food. They turn and scamper off into the bush.

Scene 4: M.S. Two cops are walking backwards on opposite sides of a bush and they bump, back to back. They spin around and start to wrestle.

Scene 5: M.S. Dave and Bill have donned the girls' clothes and are just putting the finishing touches to their dressing. Bill opens hamper and takes out food and puts their prison clothes in.

Scene 6: M.S. George and Harry, two young men, are walking by the river bank; they see Dave and Bill.

Scene 7: M.S. Dave and Bill are just about to take a mouthful of pie when George and Harry walk up and join them. They both get a shock.

Scene 8: M.S. George and Harry take off their hats and bow. Dave and Bill both assume a very effeminate manner. George takes Bill's hand and kisses it. Bill then gives George a coy push on the shoulder. George returns the push.

Scene 9: S.C.U. Bill pushes George a little harder. George again returns the push with the same force. Bill gives a very hard push.

Scene 10: M.S. George falls over backward and Harry bends down to help him rise. Dave gives Harry a kick in the pants which knocks him on top of George. Dave and Bill both dive on top of them.

Scene 11: M.S. The two cops hear the row and turn, then run to see what it's about.

Scene 12: M.S. Dave and Bill, George and Harry are having a rough and tumble.

Scene 13: S.C.U. Bill sees the cops.

Scene 14: M.S. The two cops approach the scene.

Scene 15: M.S. The fight between Dave and Bill, George and Harry stops and the scene is that of four lovers fondly clasped in each others arms. Cops enter scene.

Scene 16: M.S. Cops walk off, after looking with suspicion.

Scene 17: M.S. Dave and Bill watch the cops for a moment and then release their hold on George and Harry.

Scene 18: M.S. Kath and Jean have returned to the scene of their picnic; find their clothing has disappeared.

Scene 19: M.S. George and Harry in a very dazed condition and clothed only

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Location No. 1: Picnic table and tent by river bank.

Scene 2: M.S. Two girls at picnic table.

Scene 2a: M.S. Two girls run to sea, river or pool.

Scene 3: M.S. Convicts enter (right), take food and clothes. Exit right.

Scene 18: M.S. Girls return and find clothes gone.

Location No. 2: Bush track.

Scene 20: M.S. Girls searching for clothes see G. & H., then run out of scene.

Scene 6: M.S. Two young men walking along track see girls.

Scene 23: M.S. Two cops register surprise, then turn about.

Scene 14: M.S. Two cops running. Left to right.

Location No. 3: By rock and tree.

Scene 1: M.S. Fade in. Two convicts appear from behind large rock, or tree.

Scene 1a: M.S. Convicts look in direction of girls.

Scene 1b: M.S. Both convicts move forward.

Location No. 4: Bush background, small tree in foreground.

Scene 11: M.C.U. Two cops face camera, look inquiringly.

Scene 4: M.S. Two cops bump and wrestle.

Scene 4a: M.S. Two cops wrestling on ground.

Location No. 5: Rock.

Scene 25: S.C.U. Two convicts behind rock in original clothes worn by boys, view fight with intense enjoyment.

Scene 27: S.C.U. Do., but turn heads.

NOTE: At back of rock convicts' backs will be facing camera.

Scene 27A: S.C.U. Convicts turn towards camera smiling. Smile changes to look of amazement.

Scene 28: S.C.U. Low camera angle. A third cop looking menacingly.

FADE OUT.

Location No. 6: Tree background.

Scene 5: Camera front. M.S. Convicts finish dressing in girls' clothes, take food out of hamper, place own clothes in.

Scene 7: Camera front. M.S. Convicts' mouths are full of pie when joined by George and Harry.

Scene 8: Camera left. M.S. Sequence of meeting; allow comedians lots of latitude for spontaneous broad comedy.

Scene 9: Camera left. M.S. Sequence of pushing; conduct as previous sequence.

Scene 10: Camera left. M.S. George falls over H. and bends to help him rise; business of pushing over, etc.

Scene 12: Camera left. M.S. Convicts and G. H. struggling on ground.

Scene 9: Camera front. S.C.U. Bill pushes George over.

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Top: the Author, on location; below, the girls whose clothes were stolen; middle, Scene 8; bottom, "A policeman's life is not an 'appy one'" (Scene 26.)



Remember To Light The Background, Too!

By GEORGE MEEHAN, A.S.C.

FROM the studio cinematographer's viewpoint, one of the most glaring weaknesses of most amateur films—and all too many 16mm. commercial pictures, as well, is that in interior scenes the essential factor of background-lighting is neglected. To the studio-trained cameraman, there is a very great deal more to lighting a scene than merely lighting the people and trusting to luck that the light from these lamps also illuminate the set or room behind them.

For one thing, unless you are working in a very small room or making an extremely close shot where the people are played very close to the back-wall, you cannot prevent the illumination from falling off very sharply; you may have an $f:2.7$ exposure-value on your people, while only a few feet behind, on the back-wall, the light may have fallen off to a value of $f:1$ or less.

But what is much more important, lighting a room with "spilled light" from the lamps illuminating your people, you can hardly ever escape getting a flat, unnatural effect on the screen—a sort of "rogues' gallery" effect which screams to all the world that you've simply set up a pair of lights and pressed the camera button.

The starting-point in getting natural-looking interior lightings is to have plenty of lamps—enough so you can use some for the people, and others exclusively for lighting the room behind them. Today this is not particularly expensive. The "clamp-on" type of photoflood reflector units are cheap, and in addition there are the new "sealed-beam" types of photofloods with built-in reflectors for both floodlighting and spotlighting use, to say nothing of the invaluable little "peanut" spotlights like the "Dinky Inkies." You can get ten or a dozen of these various units today

for less than you'd have paid for a set of three or four floodlights only a few years ago.

In lighting an average room, begin by studying the normal lighting that illuminates the room in real life. Generally you'll find that the practical lighting-fixtures will provide a definite and logical lighting-pattern. If you follow this in your photographic lighting, you're pretty likely to get a natural-looking shot on the screen.

First of all, you'll have to provide a soft, overall illumination to give you some detail in your darkest shadows. This lighting can usually come from two or more floodlighting units placed well to each side of the camera, as high up as possible, and diffused with a screen of white silk or tracing-cloth. These units should be positioned so that their light will not shine strongly on the people at any point in the action. It isn't a bad idea, in setting up this general lighting, to check the illumination with your meter, making sure that it is pretty uniform throughout the entire area of your shot.

The next thing to do is to reproduce the highlights made by the various practical fixtures, like wall-lamps, table and reading lamps, etc. Just how to do this depends, of course, on the requirements of each shot. A safe general rule is to turn the wall-lamps on, and then, usually with diffused spotlights and spot-type sealed-beam photofloods, cast soft-edged spots of light on the wall around these fixtures in a way that reproduces the natural effect, but at whatever higher level of intensity may be needed to suit the film you're using.

The highlights made by shaded table and reading-lamps can usually be reproduced very easily, by simply replacing the regular globes with Photofloods. Don't forget you can vary the effect, too, by using No. 1 Photofloods in some of these lamps, and No. 2 Photofloods in others where you want a more pronounced highlight. Balance the intensities of these highlight-areas with that of your general lighting so that you get a definite highlight-and-shadow effect, yet with enough illumination in the shadows to get a natural amount of shadow-detail.

Then light the people, to get the pleasingly natural modelling you want on

them. Naturally, for a pleasing lighting, you'll want your people illuminated with one highlight side and one shadow side. Plan this so that the highlight-side is in each case on the side nearest some apparent source of illumination in your set-lighting. It is altogether natural, for instance, if you have a shot of a person sitting by a table, reading, and the highlight-side of the lighting on the person is on the same side as the reading-lamp, and seems, at least, to come from it; and it would be completely unnatural if you had the reading-lamp, say, on the left, while the highlight-illumination or "key-light" on your player's face was from the right!

The next thing to do is to make sure that you have sufficient lighting-contrast to make your player's figure stand out from its background. There are several ways to do this. Sometimes you may find the tonal value of the person's clothes and the background are, photographically speaking, very similar. In that case it is a good idea to provide an outlining back-lighting on the player. This can come from units—usually spot-lighting units like the "Dinky Inkies" or sealed-beam spots—placed above and behind the player. Often you can hang these lamps on the picture-moulding that runs around the upper part of a room's walls. This back-lighting should be a bit stronger than the front highlight-level.

Sometimes, the player's costume may be darker than the coloring of the back-wall. In that case, it is often a good idea to give the wall an additional highlight, so that the darker-clad player stands out partially silhouetted. This can be done by concealing floodlighting units in the scene, behind the player, where they cast their beams upward onto the back-wall. Sometimes, too, this can be effected by properly-placed lamps above, hung from the moulding and pointed either straight or diagonally downward along the wall.

The exact amount of light to use will depend on the type of film you are using, and the effect you want, obviously, if you use Type A Kodachrome you will need more light than if you were using, say, Super-XX; and if you are trying to make a night-effect lighting or a harsh, melodramatic effect, you will need less illumination and few

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Build Vacation-Film

Continuity With "Added Scenes"

By HENRY SHARP, A.S.C.

SO YOU came back from your vacation and discovered you'd left un-shot a lot of scenes you needed to make your vacation-movie continuity complete, did you? Well, cheer up—plenty of professional film companies have come back from distant locations and discovered the same thing, too. What's more, they've usually been able to repair the damage—and do it without having to trek expensively back to where those scenes ought to have been shot, either!

The secret is "added scenes." If you made the original sequences right close to the studio, you go back there for your "added scenes"; but if, as is much oftener the case than not, you made the original sequence several hundred miles from the studio, you don't go back there just to re-shoot a close-up in which your star has muffed a line. Instead, you pick yourself a nice, non-committal background—a bit of sky, a tree, a rock, or whatever may be suitable to "double" for the locale where you exposed the rest of the scenes, and shoot those missing shots from angles that won't show enough background to give the trick away. When you cut these "added scenes" into the rest of the sequence, they *seem*, at least, as though they'd been made at the same time and place as the rest of the sequence. Technically I suppose you'd call that fooling the audience; but since it's fooling them in a way that gives them a better show for their money, who cares? Not they, anyway!

Now if this idea works well professionally, in 35mm., it can be put to work just as well by the amateur with his 16mm. and 8mm. equipment. Better, in fact, for the shortcomings of the average vacation movie play right into the hands of this "added scene" trick. Think fast, now—what's the biggest loophole in most vacation movies? Right the first time—lack of close-ups to prove that you and friend wife were there at the spot where you made those long-shots!

Well, here and there among the footage you *did* get on the trip you've undoubtedly got a long-shot or two of yourself and f.w. walking aimlessly through the scenery while the other one pressed the button. Well, those shots "establish" the costumes you wore on the trip. Now, suppose you want to get a few close shots to cut in with the

pictorial landscapes you shot. Simply put on those outfits—and make close-ups to your heart's content. Pick backgrounds that *might* conceivably be part of the landscape surrounding the long-shot.

For example, if you went to the mountains, no matter where you live you're pretty likely to be able to find at least one pine tree that you could use to fill the background of a close shot of yourself or the wife. Use it for the background of your added scenes! In the same way, a rock is a rock, whether you shoot it in Yosemite or in Omaha's Hanscom Park, and a sky-and-cloud background is pretty much the same whether you shoot it in Maine or in Minnesota.

If you have some long-shots of you in a canoe or boat on a lake, what could be more effective than a close-up to go with them, showing your face (or the girl-friend's) registering enjoyment, while ripply reflections such as the sun casts up from a lake or stream make a highlight-and-shadow pattern play across the face? You can get the reflections easily enough: just put a good-sized piece of broken mirror into a large, flat tray with an inch or so of water in it. Use the sun—or a spotlight—for your lighting-tool, and by placing the tray in the right position, and jiggling it a bit, you'll get ripple-reflections no one in the world could distinguish from the natural article!

Oh! So you went Dude-ranching this summer, did you? And you want some close shots to match the long-shots (all too short) wifey took of you when you tried your skill on the quarterdeck of a bucking horse? That's easy enough! Just get a saw-horse, a saddle, and a stout 2x4. Place the timber across the saw-horse just the way you did when as a kid you used to make a see-saw. At one end, strap the saddle. Don your dude-ranch cowpoke-outfit and climb into the saddle.

Now have a couple of husky friends grab onto the other end of your see-saw and rock you violently up and down. The more violently, the better, if your real horse was anything of a buckner! If your camera is placed low on the ground, shooting upward at an angle, you can get some highly effective shots of your head and shoulders shooting up into the picture, and then dropping down out of the frame. If you do your part—waving



your hat in true "ride 'em cowboy" fashion, grabbing leather, and maybe finally tumbling out of the shot as though the bronc had spilled you—you'll have some close-ups which, when intercut with the long-shots, will give a perfect illusion that somebody had done some mighty clever telephoto work with your camera while you were actually making that brief ride. Shooting these close-shots a trifle below normal camera-speed—say about 12 frames per second—will help. So, too, will a bit of artistic work with a fan and a pan-full of dust! (P.S. Intercutting these close shots will kid the audience into thinking you stuck on the bronc a good deal longer than you really did, too!)

Don't forget, too, that the same general idea can be put to work in several other ways, too. For instance, you've shots made from the train en route to your vacation-spot, but nothing to show you starting the trip. All right—with the exception of one or two railroads that go in for circus-car coloring, all railroad-cars look pretty much alike, and one black pullman looks about like the next. So you can toddle down to the station on your day off and get a fairly close shot of yourself boarding a train. The car will look about like any other (except those tricky streamliners) and most station platforms have a family resemblance, if you don't try to show too much of them. So in nine cases out of ten a shot of you boarding a train in your home town will double excellently for one of you boarding quite a

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There Are Headaches In 16mm Commercial Movies

By ONE WHO HAS HAD THEM

YOU will remember (I hope) that in last month's issue we reconstructed, with the uncanny accuracy of one who has endured it all himself, some of the circumstances which lead otherwise normal people to give up honest work and launch into the making of 16mm. commercial films as a business. We traced some of the events which led an unwary movie-maker whom we called "The Patient" to decide to take up a career as a producer of commercial movies. And we promised a second installment of revelations of the things which made him regret that he'd ever taken such a step.

The house-lights go down and our story continues. One day soon after, our Patient received a phone-call from a friend. "Come to lunch with me today," said the friend. And our hero foolishly said yes. Of such things is destiny made.

The luncheon was at a service-club where they showed a 16mm. business-film. Nobody was quite sure what the film was about, but it took twenty minutes to show, for which the afternoon's program-chairman was thankful. Afterward, the friend said, "What do you think of it?" meaning, of course, the film. "Fine—couldn't have stood another mouthful," said our Patient, meaning, of course, the lunch.

To make a long story short, it turned out that the friend worked for a firm which had decided to put itself into the big-business class and have a movie of its plant made. The friend had told his boss about our Patient, about seeing the movies that talented young man had made in color. And so the boss, who didn't know anything about movies anyway, had expressed a desire to meet the chap.

When the meeting took place, the boss started proceedings with the logical business-man's gambit: "How much is it going to cost me?"

"Well, er, I don't know exactly," replied our Patient, gazing bewilderedly across a broad expanse of polished desk.

"But you must have some idea," expostulated the boss.

Our hero tried to find courage in the thought that he really *must* know more about movies than the boss, meanwhile casting around in his mind for some clue to what a picture like that ought to cost. All he could think of was the price of film-stock. The boss interrupted his cerebrations. "Shall we say a thousand dollars?"

Our hero tried to act nonchalant and hoped his Adam's apple wouldn't give him away if he swallowed. How long had this sort of thing been going on, he wondered. A thousand dollars for a picture that would take about a hundred dollars' worth of film—maybe a little more. Whew! He'd be loaded with money in no time! Somehow he managed to produce a nod.

The boss called in a secretary and dictated a memo which both he and the Patient signed. "Get in touch with our advertising agency," he said, handing our hero a scribbled name and address. "I've discussed the idea with them and they will help you work out the idea. We have a message we want to convey."

The agency wasn't much help. Besides, they were horribly indelicate; they asked our hero what he knew about making industrial motion pictures. With the project safely sewed up, he countered with the (to him) logical proposition that making industrial motion pictures was no different than making any other sort of movies. It was just as easy for him to shoot the fabrication of a length of patented rubber-matting as it was to shoot his wife shivering at the edge of the surf. Perhaps easier.

The advertising experts didn't argue the point because they weren't sure but that maybe he was right. So they told him to come back the next day; to give them a little time to consider how best to present their sponsor's message. Our hero agreed; he wanted time to think things over, too. Not so much the problems that would be involved . . . rather, he wanted to revel for a while in luxuriant contemplation of his new-found opulence.

Next day the girl at the agency said that Mr. Oakes and Mr. Doakes were in conference . . . would he phone them. He did, and finally made a date for the middle of the coming week.

When the date came, our hero had to remind them all over again about the purpose of his call. Oh yes, their client's motion picture! And what ideas did he have for the said motion picture? He told them he thought that was where they came in. The advertising Big Brain nodded in agreement. Our hero understood, of course, that the agency would receive its customary 15% commission for its cooperation in this task? He nodded sagely. He had never thought of this angle; but even the 850 smack-ers still looked pretty good.

And so the plot was hatched, and the scenes to be shot were noted down briefly on a piece of paper. Only there was really no plot, and the scenes were just so many views. But our hero didn't know the difference. He had never made an industrial before. And, luckily for his peace of mind at the moment, neither had the agency. But they both learned—!

Our hero decided to shoot the exteriors first. Even he had a faint suspicion that the interiors might present some sort of a problem, seeing as how he'd never shot any before. Except that "low-key" stuff he'd shot the Christmas Helen gave him a Dinky Inkie.

But never having had to schedule his shooting, getting those simple exteriors took much longer than he'd expected—weeks longer—and much more film. He discovered the weather-man was a very nasty fellow.

When he got around to the interiors, he discovered that plenty of light is needed to shoot Kodachrome indoors . . . especially when the "indoors" is inside a huge, dark-walled factory filled with black machinery. He could have sworn he had enough light that first time. It really surprised him, and the workmen in the factory were visibly awed by the blazing glare of light he used. But there hadn't been enough . . . the results were too, too distressing. Regretfully he decided to throw away about twenty dollars' worth of almost opaque Kodachrome.

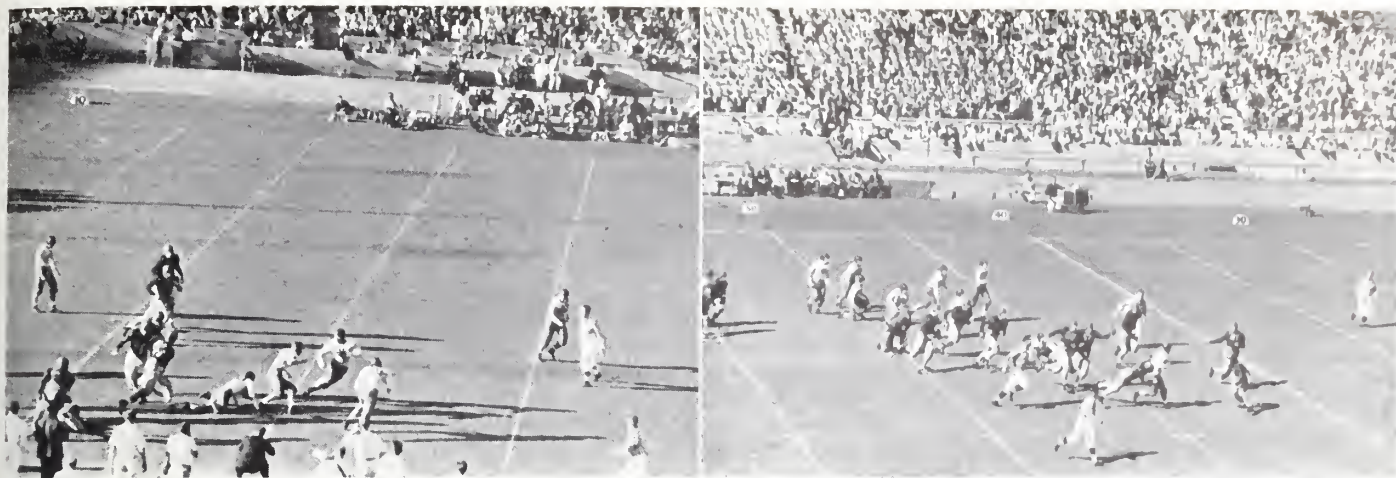
Taking counsel with a pal of his who ran a camera-shop, he became convinced that what he needed was a new light-meter. Also, some really powerful lamps. They were appallingly expensive, but he finally discovered a place where he could rent them instead of having to buy them outright.

Several days later he turned up again at the plant, with a load of lights, rented at a fee he'd never figured in the budget, and an assistant. This assistant, for the purposes of the story, we'll call Schnuckel. He knew all about lighting interiors, especially for color. He admitted it.

Schnuckel busily and officiously engaged himself in arranging the lights for the first shot. When everything was ready, he turned them on. There was a moment's blinding flash, then utter darkness—and complete silence. Throwing the added electrical load of the many lamps onto the plant's already well-loaded wiring had blown all the fuses! The horrible silence of a factory-full of immobile machinery was broken rudely by the imprecations of the plant superintendent. What he said was crude but colorful; at any other time our Patient would probably have taken it for what it was—a work of art in its way. But at that moment, he couldn't appreciate it.

Our hero gave up his lunch-time to scamper around getting things straightened up, and another fat slice of his dwindling budget to providing an inde-

(Continued on Page 498)



Tips On FILMING FOOTBALL

By JOHN L. HERRMANN, A.S.C., F.R.P.S., F.R.S.A.

FILMING a football-game is one time when you'll get really better results if you pass up the most sought-after (and expensive) seats in the stadium and go in on a less expensive ticket! The best viewpoint for making football movies is a relatively high one, so that you can look down on the play. From that angle your shot will show practically the whole team, while from a lower angle, though you may get closer shots of the players at your end of the line, they'll hide much of what goes on beyond them.

For a variety of reasons, most of us newsreel cinematographers plant our cameras atop the press-box, which is usually up on the very rim of the stadium. This is all right for us, for we're well equipped with really high-powered telephoto lenses, and accustomed to using them. But if you're going to make sub-standard movies of football, either for your own pleasure or as an official record of the game for one of the contesting teams, I'd suggest setting up your camera about half-way up the side of

the stadium. Many football bowls have little platforms at about this level, just over the entrance-tunnels or stairways; and this, as many of the 16mm. professionals who make slow-motion movies for coaching purposes have found, is the ideal place for filming football.

In the newsreels, too, we tend rather to over-use our tele-lenses, for it's part of our job to get extremely close, screen-filling shots of spectacular runs and passes by individual players. But if you want movies that will really tell you something about the game, I'd advise you to follow the lead of fellows who make the official coaching films. They choose their lenses so that their shots will show the play as a whole. After all, it may be interesting to see a full-screen shot of some individual star sprinting along for a long gain; but if you really like football, it's much more interesting to see how his teammates run interference for him, opening holes

through which he can carry the ball, and blocking out opposing tacklers.

If you intend to cover the game thoroughly, you'll have to have quite a variety of lenses so you can keep this same general angle no matter what part of the field the play may occur. For instance, in 16mm., when the play is in mid-field, close to your own side of the gridiron, a two-inch lens is ideal. For plays on the opposite side of the field, a three-inch lens is necessary.

For plays taking place between, say, the forty and the twenty-five yard lines, a four-inch lens will bring things up to the desired size. And from the twenty-five yard line to the end-zone, a six-inch lens is the thing. Using this selection of lenses (halve the respective focal lengths if you use 8mm.) you'll be able to keep the images of the players pretty consistently the same size no matter where the play takes place.

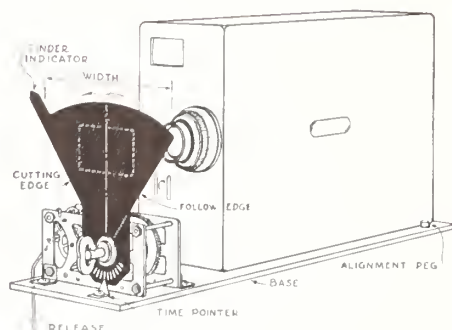
Football is a sport that almost demands the use of at least moderate slow-motion. The super-slow 64-frame speed many

(Continued on Page 499)

A moderate telephoto lens which shows the whole play gives the most interesting picture. If you use black-and-white, use slow, cheaper film for the first half, when the field is well-illuminated (above) and faster film for last half, when field is in shadow (below.)



THE IDEA EXCHANGE



Mechanical Wipe

If you want a professional wipe for your camera and have a yen to tinker with old clock works, then here is what you do.

Obtain an old discarded or broken clock and remove the mechanism. It is preferable to use the mechanism from a small alarm-clock, as they are more compact and lighter. If you don't happen to have one, I suggest the swap shops or the second-hand stores as likely places to find one. Also a motor from a mechanical toy is very satisfactory.

Strip the mechanism of all unnecessary parts, but leave intact one spring and enough pinions so that the winding-key will make about twelve complete turns per minute. It may be necessary to mutilate the last gear so that it forms wind-paddles and thereby slows down the speed.

Mount the motor on a base as shown in the sketch. The base can be made of wood or metal—3/16" masonite works excellently. The motor winding-key should turn counter-clockwise when unwinding and must be in line with the lens. The motor end of the winding key should be about 1 1/2" from the lens for 8mm. cameras and about 3" from the lens for 16mm. cameras.

The wipe-blade can be cut out of an old tin can with shears. Punch a hole in the blade just large enough to permit it to slide over the winding-shaft. The blade cutting-edges should form about a 60-degree angle and be in line with the shaft hole. The width of the blade at lens-height should be equal to the distance the blade is from the lens. The finder-indicator should be in such a position on the blade that it can be seen in the view-finder when the blade is in a closed position as shown in the sketch.

Give the blade a coat of flat black paint. Mount the blade on the winding-shaft between felt or leather washers so that the blade can be moved without moving the key and shaft and yet snug enough so that it will not slip by itself. On the bottom of the blade with the aid of the time pointer and a watch, mark the distances the blade moves per second.

A release-trip can be made in a num-

ber of ways. The easiest way is to use a straightened paper-clip or similar stiff wire. Twist it around the frame of the motor so that it presses against the last gear. A light touch will release the pressure and permit the motor to operate.

Now to operate the newly-made gadget! Wind the motor and place the cutting-edge of the wipe-blade well out of the field of the lens. It should occupy the same position as the follow edge in the sketch. When ready to make a wipe, push the release and the blade will cross before the lens. As soon as the indicator is seen in the view-finder, the pressure is taken from the release and the blade stops in the closed position. The camera should be stopped at the same moment.

Now with the aid of a back-wind, darkroom, or changing-bag, the film is wound back to the point where the wipe began to operate. This is determined by the number of seconds the wipe operated and is indicated by the time pointer and seconds marked on the wipe blade.

As an example, at 16 frames per second, five seconds would indicate that 80 frames or one foot of 8mm. film or two feet of 16mm. film would have to be rewound. Seven seconds would indicate 1 2/5 feet (roughly 17 inches) of 8mm. film or double that amount for 16mm. If the camera has a frame-counter, you would wind back the required number of frames.

The wipe-blade is now placed so that the follow edge is in the exact position that the cutting edge was originally. The sketch shows the blade in this position. The wipe is now completed by simultaneously releasing the mechanism and pressing the camera operating lever.

The dotted line shows the size and position of the frame which can be checked by shining a light through the camera lens.

PAUL O. CRAMER

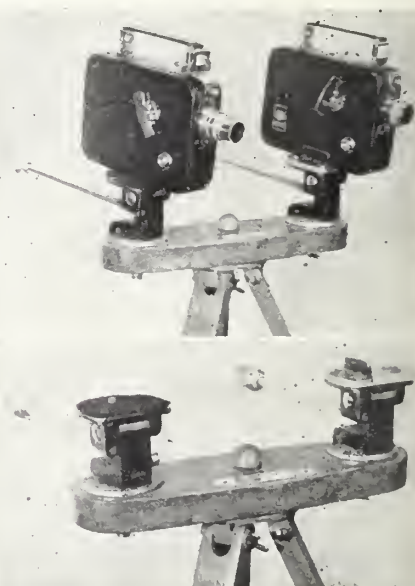
Twin Tripod-head

One of the handiest gadgets I've ever used in my movie-making is the twin tripod-head shown in the illustrations. It enables me to use any possible combination of two cameras—two "eights," two "sixteens," an "eight" and a "sixteen," or cine and still—with different types of film or lenses, shooting simultaneously or alternating, so I can easily get scenes a one-camera man might have to pass up.

It's easy to make, too. Use any convenient piece of 1" lumber, about 18 to 22 inches in length and rounded at the ends. Any camera-supply store can supply you with the nuts that fit the standard camera tripod-screws, and with the screws themselves. For that matter, if you have access to a lathe there's no great trick to fabricating them yourself. Countersink one nut in

THE IDEA EXCHANGE is just what the name implies—the place where 16mm. and 8mm. cinefilmmers can swap moviemaking ideas with the other fellow. The little improvised tricks you used to solve one of your cinemaking problems may be just the answer to something that's perplexing a fellow filmer—and one of his ideas may solve a problem for you.

To help out this exchange, THE AMERICAN CINEMATOGRAPHER invites you to send in descriptions of gadgets, tricks, shortcuts and methods you have used in any phase of home movie work—shooting, editing, titling, projecting, processing, and the like. If possible, send along a photograph or sketch to help make your description more clear to the other fellow. For every idea published in THE IDEA EXCHANGE, we'll give you two projection-reels and cans or their equivalent in equipment or cash. Really unusual ideas will receive higher awards. When sending in your idea, let us know whether you shoot 8mm. or 16mm. to facilitate sending you the right equipment.



the bottom center of your board, to serve as a socket for the tripod's screw. Place appropriate screw and nut combinations at the ends of the board so you can fasten either two cameras or two tiltheads in place. In making up my own gadget, I also countersunk a small spirit-level into the top of the board; this is a great help in getting a level camera set-up.

In use, you can either place the two cameras directly on this board, fasten-

(Continued on Page 501)

AMONG THE MOVIE CLUBS

CALLING CLUB SECRETARIES!

This department of THE AMERICAN CINEMATOGRAPHER is *your* department. We feel that there is a great deal to be gained all around by making these reports of club activities available to other clubs and to independent cine-films all over the country. To that end, we ask all you club secretaries to consider yourselves special reporters for THE AMERICAN CINEMATOGRAPHER with the assignment to "cover" the activities and meetings of your club.

The Editor.

Syracuse Has Film For Exchange Shows

The Syracuse (N.Y.) Movie Makers Association (16mm. and 8 mm.) has been organized for about four years. It consists of forty active members who are interested not only in their own Club's activities, but also in what other Clubs are doing. For that reason the Club offers for exchange showings with other Clubs a 400-foot (silent) 16mm. Club-made scenario film entitled "The Haunted Schoolhouse." The Club expects soon to have other films ready for exchange, as well. Inquiries about showings of these films should be addressed to L. E. Felton, Secretary, 142 Coolidge Ave., Syracuse, N. Y.

Recently the Club held an election of officers, with the following results: President, D. L. Conway; Vice-President, A. G. Ives; Treasurer, B. Rightmyer; Secretary, L. E. Felton. The Club is working on plans for a very busy year, with such projects as a radio-program, showings of films to shut-ins, and a membership drive scheduled.

L. E. FELTON, Secretary.

Phila 8-16's Make Charity Film

A volunteer production crew from the Philadelphia 8-16 Movie Club put in two extremely busy days recently making a 300-foot 16mm. Kodachrome film of activities at a charity boys' camp. Members Frank and Sarah Heininger collaborated on the script, with Leonard Bauer as Director, Frank Heininger as Director of Photography, Leon Chalfin, Operative Cameraman and Phil Oetzel, Assistant Cameraman. By dint of skillful work by all concerned, the picture was completed within the allotted footage—actually with 15 feet to spare—in spite of the problems of "directing" more than 80 very active youngsters. The picture will be entered in various National competitions and thereafter turned over to the camp for use in publicizing the Camp's activities.

LEE CHALFIN.



Members of the Los Angeles 8mm. Club at their Annual Picnic, 100 strong. Past-President Al Leitch (right) directs with megaphone, while Picnic Chairman Bill Millar (left, in cowboy hat) supervises.

Tri-City Starts Fourth Year

Starting its fourth year with 60 members and guests present at its September meeting, the Tri-City Cinema Club (Davenport, Ia., Rock Island-Moline, Ill.) opened its 1941-1942 season by setting dates and locations for the season's meetings, alternating between Davenport, Moline and Rock Island auditoriums, and appointed committees including the Program Committee, Tom Griberg, Chairman; Membership Committee, O. C. Peterson, Chairman; and Attendance, Harold Swanson, Chairman. Following the business session two Kodachrome films were shown. These were "Vacation in Mexico," by Dr. C. S. Costigan of Moline (600 feet 8mm. Kodachrome) and "Scenes Taken from the West Point of the Air," by Leon Zoekler of Davenport (350 feet 16mm. Kodachrome.)

GEORGIA T. FIRST, Secretary.

Auricon Sound For St. Paul

September meeting of the St. Paul Amateur Movie Makers Club was highlighted by a showing of a 16mm. sound-film made by two Club members—J. E. Lucius on the camera, and Kenneth Hezzlewood on the Auricon recorder. The film was a 900-foot Kodachrome picture of the 1941 Minneapolis Aquatennial. Two-thirds of the footage was recorded by putting the sound on the original Kodachrome after the picture-exposure and before development; the remaining 300 feet was sounded by making a separate recording to synchronize with the already-developed picture, then making a composite sound-and-picture Kodachrome dupe. Also scheduled for showing was "Roamin' in the Southland," 650-ft. 16mm. Kodachrome, filmed in New Orleans, North and South Carolina, Florida, Virginia and Cuba by Mildred Shermack. The 8mm.-shooting members and the 16mm.-filmmers are indulging in a friendly competition, each group cooperatively working on a film on "Minnesota." Chairman of the 8's reports considerable shooting already done by his group, with the film expected to be completed about December.

AGNES MARX, Secretary.

Long Beach Shows Documentaries

Films by new members of the Long Beach Cinema Club were featured at the September 3rd meeting of the Club. Pictures shown were "Haunted House," by Sam Tate; "Hawaii," by Myrtle Adams; "1940 Vacation," by Earl Everly, and "Rose Parade," by Otto Nobis. Rushes of Clarence Aldrich's latest film, "Pass the Corn," were also previewed. Refreshments were served following the meeting.

At the September 17th meeting, G. C. Barnett, of Bell & Howell's Hollywood branch, presented four 16mm. sound-films and spoke on "Proper Use of Equipment." Films shown were "Silver Shadows," "History of the Movies," a colored comedy, and an amateur-produced Kodachrome picture.

The highlight of the Club's September activities occurred on September 23rd when the Club sponsored a special showing of three Government documentary films at the Egyptian theatre. "The River," "The Power and the Land," "The Plow that Broke the Plains," and two MGM shorts on photography were shown. Guests of honor at this showing were Floyd Crosby, A.S.C., who directed the photography on "The River," and "The Power and the Land," and William Stull, A.S.C., Editor of THE AMERICAN CINEMATOGRAPHER. An audience of close to 1,000 turned out to see the Club's documentary show.

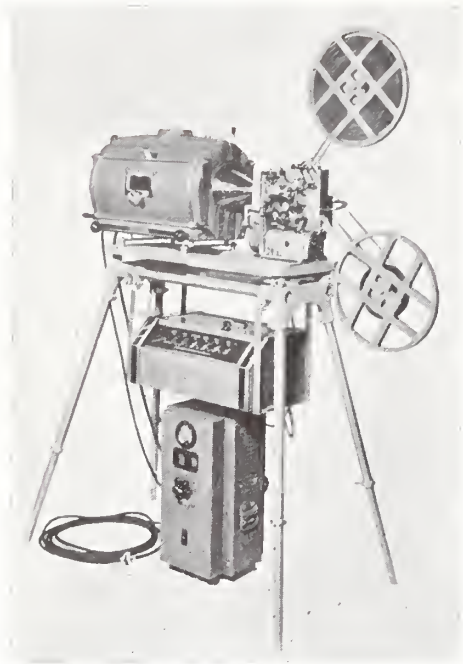
RAYMOND FOSHOLDT, Secretary.

S. F. Sees "Souped-up" Kodachrome

The September meeting of the Cinema Club of San Francisco featured an outstanding program of Kodachrome films, both 8mm. and 16mm. S. V. Rothschild showed a 300-ft. 8mm. film of Bryce Canyon; Club-member E. Unmack screened another 8mm. color-film entitled "A Vacation the Kids Will Remember"; Fred Youngberg screened his "High Sierra" film, and President Smurr exhibited a 400-ft. 16mm. film made at the Ice Follies using hyper-sensitized Kodachrome.

JOHN B. SMURR, President.

...THE SHOWCASE...



New Victor Arc Projector

A new Victor product—the Victor Model “E” High Intensity Arc Lamp Projector—has just been announced by the Victor Animatograph Corporation of Davenport, Iowa. This model was especially designed by Victor engineers for heavy-duty service and to fill the demand for a projector that will produce ultra-brilliance of screen images in large auditoriums and outdoor areas. In its construction Victor has retained the fine features that have popularized Victor Projectors in the past. Complete unit consists of Projector, Sound Unit, Amplifier, Speakers (2), Arc Lamp, Rectifier and Projector Stand. Literature containing complete specifications and features of this new projector is now available. Request Form No. 1052. Address Victor Animatograph Corporation, Davenport, Iowa.

RCA Adds 16-mm. Sound Channel at Hollywood

Complete facilities for direct sound recording and re-recording on 16mm. film have been installed in RCA's Hollywood studios. The new equipment rounds out the complete sound recording and reproducing facilities available at RCA's headquarters in the film capital.

Notable improvements in recording and printing equipment have advanced the quality of contact prints made from directly recorded 16mm. negatives. This together with the speed and economy of direct 16mm. contact printing have led RCA to make direct 16mm. recording and re-recording equipment available.

Built-in Meter on Cinemaster

Latest and most unique feature of the new Cinemaster 8mm. camera and a feature said to be available on no other movie camera at any price is a novel built-in extinction-type exposure meter. Said to ensure correctly exposed movies, the meter is operated by a control on the side of the camera, a flick of the finger moving the meter into position inside the optical view finder.

RCA Coating Lenses

As non-reflection coated lenses are coming into increasing use on studio cine-cameras, it is only natural that similar treatment should advantageously be applied to the lenses of theatre projectors. Therefore the fact that the Photophone Division of the RCA Manufacturing Company is commercially treating both projector and camera lenses with a new non-reflection coating known as RCA Magicoat is of timely interest.

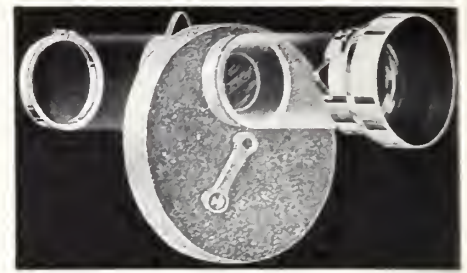
The coating method used is a product of the RCA Research Laboratories, and is stated to be very durable and at the same time very efficient. The RCA-Photophone field force will handle the new lens-coating activity; lenses to be coated will be shipped to the RCA plant in Indianapolis, where ample facilities for applying the RCA Magicoat surface have been installed in a special air-conditioned laboratory. The formulas and processes used in this system of coating were developed by RCA engineer Glenn L. Dimmick, already well known for his work in pioneering ultra-violet recording and other outstanding photo-optical recording developments.

Dual-Purpose Camera-brush

A useful accessory for dislodging the tiny specks of dust, lint, etc., which inevitably accumulate in the apertures, film-moving mechanisms, etc. of cine-cameras and projectors is the new Gem Double-Purpose Camel-Air Brush, being introduced by the Weimet Co. of New York. It is a surprisingly simple and practical little gadget: a fine camel's-hair brush is attached to a small rubber blower-bulb. The blower roots out small particles that cannot be seen with the naked eye, or may be lodged in otherwise inaccessible places, and the brush picks them up. This novel accessory sells for \$1, and is available through your dealer or from the Weimet Company, 112 West 44th Street, New York City.

New Ampro Catalogue

A new 16 page illustrated catalogue showing their full line of 8 and 16mm. silent and sound motion picture projectors, has been released by Ampro Corporation.



Harrison "Roto-Fade"

Trade-named “Roto-Fade” because of its rotary action, a new manually-operated fading device for substandard cameras has been introduced by Harrison & Harrison. Embodying a disc-shaped graduated filter enclosed in a lightweight aluminum-alloy housing, the device is furnished with a Duraline Aero-lock ring for positive attachment to any sized lens-barrel up to 22mm. diameter, and a Harrison Dual Snap sunshade which combines the functions of sunshade and filter-holder.

The action of the fading device is essentially similar to that of the familiar fading-glass, with the exception that the graduated fading-glass has been made in disc form, for greater compactness and convenience of operation. In making a fade, the glass is revolved slowly in front of the lens by means of a smooth-working radial arm on the front of the housing. Due to the manual control, fades of any length may be made. The “Roto-Fade” is priced at \$15.

Improved Exposure Slide-Rule For B & H Magazine Cameras

From Bell & Howell comes word of an interesting new exposure-calculator which is now being fitted to the Filmo magazine-loading 16mm. cameras. For many years the firm has been fitting permanent, metal exposure-guides to most of its cameras, but the new calculator is stated to be so much more complete in its coverage of all photographic variables that it may be called a cinematic slide-rule. The new guide compensates for film emulsion-speed (in Weston factors), filter-factors and camera operating speeds, in addition, of course, to the usual exposure-chart factors of lighting, type of scene, season and time of day. With its ability to compensate for these additional factors, the new calculator therefore becomes a useful accessory to many filmers who habitually use a photo-electric exposure-meter for basic exposure-readings. With the normal exposure taken from the meter-reading, the improved calculator will enable them easily and accurately to determine correct exposure for any filtering or camera-speed.

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HERE'S HOW

Changeover Cue-Marks

What is the significance of the small, round flash we see in professional movies every so often, located at the upper right-hand corner of the screen?

Vincent Scott

The flashes you see are made by small, round punch-marks, sometimes in the positive print, sometimes in the negative, as cue-marks to tell the projectionist when to change operation from one projector to the other in giving a continuous show. There are usually two such cue-marks: the first one as a warning-signal, the second a few feet later, at the actual point at the end of the reel where the change-over is to be made to the other projector. The same idea can very well be applied to multi-reel 16mm. and 8mm. pictures if you intend to present them in continuous shows on two projectors. You will have to use a very small, fine punch, of course, especially with 8mm.'s tiny frame.

Lighting Babies

I want to make some interior shots with my baby, but some people have told me the strong photographic lights will harm the baby's eyes. What would you recommend for filming a very young baby?

V. Burdick

Several years ago, when Daniel B. Clark, A.S.C., went to Canada to film the then very young Dionne quintuplets in their first movie, "The Country Doctor," he made extensive tests, in collaboration with leading medical authorities, as to the safest lighting to use in photographing babies. He found that PhotoFloods in dull-finished reflectors, and fitted with "daylight blue" gelatin diffusers, produced no noticeable harmful or irritating effect on even the youngest baby's eyes. So successful was this that Dr. Dafoe subsequently insisted on the use of similar lighting by all the newsreel cinematographers assigned to filming the quintos. The same lighting could be used in black-and-white home filming. For Kodachrome, the blue diffuser would color the light undesirably, and a diffuser of plain white silk or tracing-cloth should be substituted. We would recommend diffused light for filming babies, at all times.

Camera Tricks

I'm planning to make a Halloween home movie, and I want to have a witch do some magical tricks. How can I make things suddenly appear and disappear like I've seen in some professional movies?

M. J. Adams

"Appearances" and "disappearances" are among the oldest and simplest of movie tricks. Use a tripod. Shoot the scene normally, up to the point where you want the appearance or vanishing to take place. Then stop the camera,

at the same time having all your actors "freeze" in their positions. Now remove whatever you want to have vanish, or put in whatever is to appear. Then start the camera and finish the scene in the usual way. For some "magic" effects, you can vary this by shooting off a small charge of old-fashioned flash-powder (in a safe metal dish!) at the point where, say, your "witch" is going to appear. When the puff of smoke from the flash-powder is at its highest, stop the camera as before, and have your "witch" take her place behind the smoke-cloud. Then, if necessary, fire off another flash, and start shooting again when the smoke is just beginning to disperse.

Shots in a Mirror

I've been trying to get a shot of my wife at her dressing-table, shooting over her shoulder to get the reflection of her face in the mirror, like that shot of Linda Darnell in "Blood and Sand" shown on P. 323 of the July AMERICAN CINEMATOGRAPHER, but I can't seem to get her reflection in focus. How is this done?

D. B. Carney

You are probably making the mistake of trying to focus on the mirror itself, which is wrong. The true focus-setting for a reflection-shot like that is the distance from the camera to the mirror, *plus* the distance from the mirror to the subject's face. For instance, suppose your lens is five feet from the mirror, and your subject is sitting three feet from the mirror. Your correct focal setting for this will not be five feet (the distance from lens to mirror) but eight feet (the distance from lens to mirror to subject.)

"Key Light"

In articles on professional lighting, I often see the term "key light." What does this mean? What is its relation to "key of lighting?"

I. D. Brasnek

The term "key light" generally refers to the source of the principal light illuminating the face of the players, or sometimes the principal player, in a scene. The term "key of lighting" refers to the tonal value of the print, whether it is normal (normally keyed) or tending to darker tonal values and deep shadows (low-key) or light tones with comparatively little contrast and light, delicate shadows and gradations (high-key.)

Coating Lenses

Would it be possible to have the lenses of my 16mm. Cine-Kodak Special treated with a non-glare coating such as is used by several professional cinematographers like Gregg Toland, A.S.C., and others? If so, where could it be done?

S. R. Barlow

The lenses of 16mm. and even 8mm.

For many years one of the most important services THE AMERICAN CINEMATOGRAPHER has performed for its readers has been the answering of technical questions about all phases of amateur and professional movie-making. These questions are usually answered by individual letters, to permit going into the necessary detail. However, in response to many requests, we also publish, in abridged form, some of these questions and their answers which we believe may be of interest to other readers. THE EDITOR.

cameras can be given this coating quite as successfully as lenses for 35mm. cameras, though for the average amateur's use it would probably still be rather expensive. We know of at least three firms in this country now engaged in coating lenses commercially.

Wheels Turning Backward

Why is it that in my movies—and professional ones, too—in shots of moving autos, wagons, etc., the wheels sometimes seem to stand still, and sometimes turn backward?

W. D. Woolyard

The reason for this is that most wheels are virtually symmetrical: one spoke looks almost exactly like the next one. If the speed of the wheel and the frequency of the camera's frame-exposures synchronizes exactly, between the making of one frame and the next, a spoke shown in a given position in the first frame has moved just enough so that the next spoke behind it has come into exactly the position the first one occupied when the previous frame was exposed, and the wheel shows no apparent motion. More often, this cycle is not wholly completed: the No. 2 spoke is caught in the second frame at a position just slightly short of that the No. 1 spoke occupied in the first frame-exposure, in which case the wheel seems, on the screen, to be turning backward.

Title Exposures

Is it possible to use your exposure-meter in making titles? If so, what is the best way to do this?

R. H. Bowen

It is not only possible, but a very good idea to use an exposure-meter in title-making. Simply put the meter in front of your camera's lens, being sure the light from the lamps illuminating your title doesn't strike the meter's cell, and take your reading. If you're working on reversal film with white lettering on a dark card, however, taking a reading directly from the card would probably tend to make you overexpose, since there's more area to the dark background than to the light lettering for your meter to read. So we'd suggest taking your reading with an equal-sized sheet of light gray blotting-paper in place of the title-card, as this gives a more accurate reading.

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Home Movie Previews

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HOME MOVIES

Scenario-type "home movie," 100 feet 8mm., black-and-white.

Filmed by Fred Evans.

Here is one of the cleverest little films we've screened in a long time. When an amateur filmer has the courage to slyly poke fun at himself and his hobby, the entertainment possibilities—if the idea is well-executed—are endless. And Fred Evans handles his subject with almost professional skill.

The film begins with the Christmas-present arrival in the "Fumblebum" family of an 8mm. movie outfit, the gift of a doting relative. Papa "Joe Fumblebum," already envisioning himself a great producer, goes immediately into action. In due time the results are almost ready for the premiere—a premiere announced in a well-handled double-exposure montage sequence, to the family friends with such well-born adjectives as "great," "colossal," "terrific," and so on. Comes the great night of the premiere showing . . . guests due to arrive, and "Joe's" last-minute splicing still under way. But at last the snarled-up film is unraveled . . . the guests arrive to be seated expectantly in the family living-room, and the great show is on.

What happens from this point is a beautifully biting satire on what happens in thousands of home-movie showings. A succession of impressive titles worthy of a Hollywood superspecial production announce that "Joe Fumblebum presents—A Joseph Fumblebum Production—"Our Family"—starring Mrs. Joe Fumblebum, Joey Fumblebum, Jr., and Joe Fumblebum—Personally conceived and Executed by Joe Fumblebum—Photography, Editing and Titles by Joe Fumblebum—a Fumblebum Production." The subsequent scenes—well, we've all of us seen many an amateur film which failed to live up to its imposing titles: and this "picture within a picture" is the archetype of them all, an inspiring collection of "how-not-to-do-it" scenes. There are garden-hose pans, jiggly tripodless shots, scenes of the baby in which strangers' feet walk in and monopolize the view, scenes where the camera ran down, one made with the cine-box upside-down, and of course the inevitable assortment of people looking unpleasant and acting silly for the camera's benefit.

As the show continues, one guest after another slips quietly from his seat and out to the more congenial surroundings of the bar, to the accompaniment of such title-comments as "Yeah, he executed it all right." As the lights go up, proud-filmer Fumblebum finds himself alone in his projection-room and—as a topper—the last trace of his film, which had not been correctly attached to the take-up reel, disappearing slowly

across the floor to where the family kitten is spinning itself in a celluloid cocoon!

In filming this comedy of cinematic errors, Evans shows himself infinitely more skillful than the luckless "Joe Fumblebum," which part, incidentally, he interprets himself. His story-sense, direction and timing—to say nothing of his editing—are of professional order. His photographic technique, especially in the difficult effect-lighted interior scenes during the projection, and in the double-exposure montage, is uncommonly fine. In fact, he shows himself to be everything his fictional protagonist is not.

A WHITTIERLAND TOUR

Historical-documentary scenic, 650 feet 16mm. black-and-white.

Filmed by Stanley and Maryjane Bean.

This film was obviously made some time ago, when both 16mm. and the maker's cinefilming skill were less developed. Nevertheless, it has a basically good idea, and with some additions and revisions would still be a most commendable picture even in 1941. The heart-meat of the picture was apparently filmed at a historical pageant commemorating the founding of Amesbury, Mass., by re-enacting episodes in the town's historic past. This material is still excellent. If the accompanying scenic shots could be remade with the benefit of the filmer's 1941 resources and skill, and if possible re-inforced here and there by a few staged close shots to tie in with the historical action, the film's entertainment value would be doubled.

Here and there among the re-enacted historical shots there are gaps in the continuity which could be bridged by added scenes—close shots which could be filmed for the purpose with perhaps a single actor. For example, there is the sequence in which the villagers are attacked by the Indians. In the present long-shot presentation, the first intimation of the attack is when a figure, well in the background, collapses. This could be built up dramatically something as follows: close-up of an Indian bow-and-arrow just as the arrow is loosed. Close-up of the arrow striking the pilgrim. (This could be done with a suitable dummy, or by turning the camera upside-down, inserting the arrow and then jerking it quickly out by means of a length of fine black thread; when this shot was turned end-for-end and cut into the picture, the effect would be of reversed action—the arrow striking the man.) Then a close-up of the Indian who shot the arrow, followed, if possible, by a close shot of the second white-man returning his fire with a musket, and so on. With the exception of the latter

(Continued on Page 490)

NO SHORT CUT

Personnel-instruction film, 1200 feet Kodachrome, sound.

Presented by Pacific Gas & Electric Co. Produced by Photo & Sound, Inc.

Photography by Marvin Becker; Recording by George Renfro.

Recorded on Berndt-Maurer 16mm. recording equipment.

"No Short Cut" is the direct antithesis of the recently-released theatrical film "Manpower." Where the theatrical film stressed the dangers of a lineman's job, this stressed the safety provisions made by a great utility company to assure the safety of its workmen under all conditions. It is an excellent job and, in a shortened version, should be almost as useful for its sponsor as general audience propaganda as it unquestionably must be in its present form for instructional purposes.

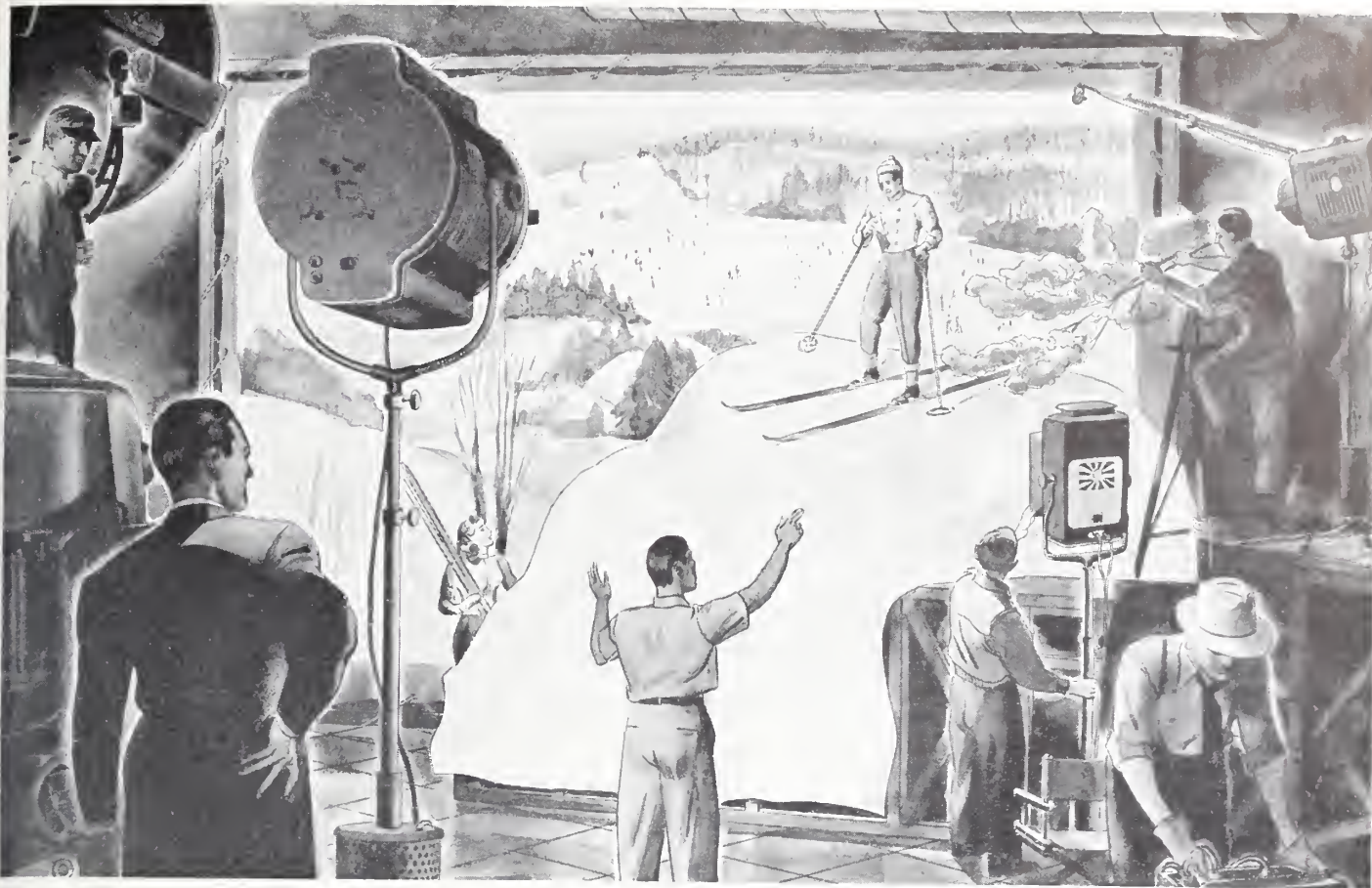
The technical handling of the film is first-rate. There is a highly pictorial opening showing what happens to a venturesome small boy when he tries to take a short-cut home instead of following the less exciting path of safety. From this the film goes directly into a detailed exposition of the safety routines mandatory on various types of repair and construction jobs on the firm's gas and electric lines, giving a detailed exposition of the "rule-book" regulations and something of the reasons behind them.

The continuity is excellent: it progresses, with the rather slow tempo best-adapted to detailed instructional films, from the simpler, routine work of P.G. & E. crews up to the more spectacular tasks of installing and repairing units of "hot" high-voltage electrical transmission-lines, and finally coming back to the opening sequence, with the small boy finally getting safely through his short-cut, but breathing a fervent "never again" at the fadeout.

The technical handling is generally excellent. Much of the footage was shot actually in the field with gas and electric construction and repair crews on the job, and in view of this, the photography is excellent. The camerawork of the high-tension line electrical work is particularly good, especially as most of it must have been shot from precarious viewpoints high on adjoining poles, and making use of telephoto lenses. The intercut close-ups of the working of some of the equipment are good. This film, incidentally, seems better than ordinarily supplied with detailed, instructive close-ups which are so greatly needed in a picture of this type.

The direct-16mm. sound-recording is excellent, and the music and narration good. In all, "No Short Cut" is a film to which both sponsor and producer may point with pride.

(Continued on Page 490)



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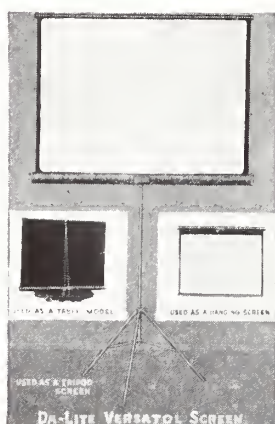
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Home Movie Previews

(Continued from Page 488)

shot, these scenes would not require special costing, and could be made easily to cut into the existing sequence. The same applies to the later sequence of the soldier and Indian battling. In this, closer shots of the Indian are vital, as in the existing shot the Indian is so small and distant as to be virtually invisible.

The existing sequence of the witch-hunt episode is excellent, especially the climaxing shot of the shadow of the gibbet.

The sequence of the launching of the

privateer frigate could be greatly improved by a retake, made with the camera in a much lower position—approximately eye-level for a man to the same scale as the miniature ship—and filmed at 64-frame slow-motion speed. It should be remembered that all miniatures, with the rare exception of those representing aerial views, should be shot from a lens-height approximating eye-level for a man scaled to the same size.

The "snowbound" sequence filmed at Whittier's birthplace is exceptionally good; one of the few amateur-made films which really captures the wintry feeling. It could hardly be improved on today.

Here and there are individual bits

where continuity could be built up to advantage by the addition of obvious added shots. One of these is in the sequence around "the bridge which hung eth by chains," in which closer shots of the bridge, and most certainly of the chains mentioned in the title, are obviously necessary.

Business Films

(Continued from Page 488)

CONTROLLING NATURE'S FURY

Sales-technical film (specialized subject), 1247 feet Kodachrome, sound.

Presented by Halliburton Oil Well Cementing Co.

Produced by Ramsey Pictures.

Photography by Arthur Ramsey, R. Y. Richie and C. P. Parsons; Recording by Lester Tucker; Animation by Ernest Hiser.

Sound-recording, 35mm., by Ramsey Pictures; reduction sound-track and Kodachrome dupe by Eastman Kodak Co., Rochester.

One of the hardest types of commercial picture to make is that dealing with a specialized and highly technical subject. If you go into details enough to make it comprehensible to the non-technical layman, the sponsor, fully familiar with the subject, is likely to accuse you of wasting footage on kindergarten elementaries; if you make it strictly according to the technical specialist's specifications, you are likely to be well over the average viewer's head. The latter was what happened in this instance. Maybe the film is intended solely for sales purposes among people who know all the whys and wherefores of cementing an oil-well, and this comment from a reviewer who definitely does not understand the technicalities of oil production is unfair. But the picture certainly does not make it clear why one cements an oil-well.

The opening of the picture, following an excellent opening title, is extremely unfortunate. There are several hundred feet devoted to extolling the far-flung operations and resources of the sponsor company: this is questionable practice, at best, for opening a picture, but in this case it is rendered doubly bad by the apparently enforced use of close to a reel of extremely amateurish scenes, made apparently by home movie-making officials of the sponsoring firm. They start the picture off with an incredibly amateurish display of badly focused, fast-panned scenes shot at 16-frame speed on Kodachrome so old and faded only a sickly magenta image remains. Eliminating these first three or four hundred feet bodily would improve the picture 100%.

Once the professionally-made part of the picture gets under way, the result is a pretty good picture, though we cannot subscribe to Cinematographer Ramsey's opinion that Kodachrome for duping should be slightly underexposed. Our experience has been precisely the

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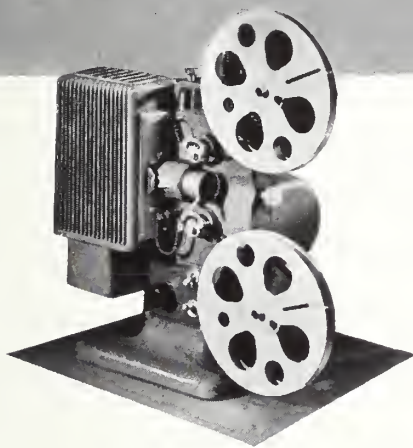
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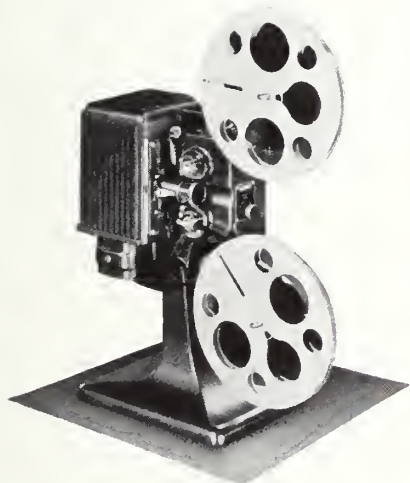
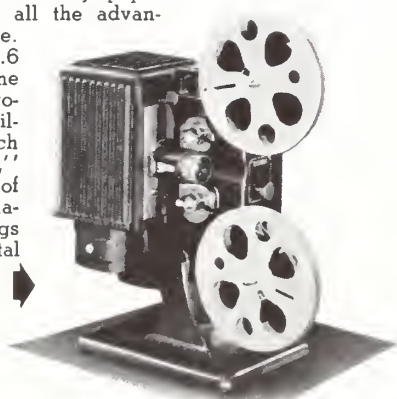
That's just one of the reasons why these Kodascopes Eight are so highly regarded by informed cinamateurs. Mechanically, as well as optically, Kodascopes Eight are designed to make the most of your movies.



◀ **KODASCOPE EIGHT-33** Newest of the new "Eights," the "33" is a smartly finished projector offering maximum projection convenience at markedly low cost. Standard equipment is a powerful 500-watt lamp and fast $f/2$ lens. 300- and 400-watt lamps are available. Major operating controls are centered on a convenient side panel . . . projection speed is adjustable . . . motor and lamp switches are independent—you can rest the lamp during the rapid motor rewinding of film . . . tilting and framing controls are readily accessible, positive in action . . . snap-back film gate facilitates threading . . . a useful carrying handle furthers safe and comfortable handling.

Kodascope Eight-33, complete with incidental accessories, is a far less costly projector than its features and refinements suggest.

KODASCOPE EIGHT-70 This tremendously popular 8-mm. projector incorporates all the advantages of the "33"—and then some. Same lamp setup, but a faster $f/1.6$ projection lens which, as part of the well-designed optical system, produces maximum 8-mm. screen brilliance. Three-way control switch marked "OFF," "MOTOR," "LAMP," offers fingertip control of major projection functions. Permanently prelubricated major bearings . . . tilting control at top of pedestal base. The "Eight-70" looks, and is, the finest of the "Eights." ➡



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reverse: that the best dupes are obtained from an original that is just slightly overexposed. The underexposure technique here followed gives high contrast and definition, with heavy shadows and very high color saturation—the latter possibly in this case an advantage, as it shows up the sponsoring firm's fire-engine-red trucks to spectacular advantage. The scenes in the field are good, with many spectacular angle-shots of the equipment in use among the oil derricks. There are some spectacular twilight-effect shots which deserve special comment. The scenes, early in the "production" part of the picture, filmed in the factory where the cementing units are made, are, if not perfect, at least very commendable work under great

technical difficulties.

The several animation sequences which show what happens in cementing an oil well are a genuinely noteworthy highlight of the picture. They are technically very well done, and tell the story as no other medium could. It is a basic fault of the picture that the film is not opened by a similar animation sequence showing the faults and dangers the cementing process is designed to cure. A single, short animation sequence of this type would be of more value to the picture than the entire first reel of amateurish shots now used to boost(?) the company.

The recording, done in 35mm. and reduced to 16mm. in making the composite color-dupe, is excellent. However it

was marred by the apparent necessity of using an executive of the sponsoring company, rather than a professional announcer, to read the narration. The gentleman in question is undoubtedly more familiar with his subject than any announcer could be—but he does not have a voice that is good for recording, and his microphone technique leaves much to be desired. A good part of his words were lost somewhere in the region of his collar, and his low-toned voice would probably have been improved had he been placed farther from the microphone.

The musical score is well-recorded, but badly chosen: it is too strident, too ornate and modernistic musically. As a result, it pushes itself constantly into the foreground, rather than remaining, as it should, a mere background. A more simple and unobtrusive score, played perhaps on the organ, and continuous, rather than intermittent, would be much more suitable.

In all, we would say that "Controlling Nature's Fury" indicates that the Ramsey organization can, when given a free hand, do a very creditable job of commercial film production, but that in this case both they and their product seem to have suffered badly from overmuch supervision from executives of the sponsoring firm who delude themselves into feeling they are experts, rather than indifferent amateurs, at move-making.

Night Effects For Army

Darryl F. Zanuck, Chairman of the Research Council of the Academy of Motion Picture Arts and Sciences, announced the start today of another War Department Training Film. This film on "Operation of a Reconnaissance Patrol at Night" explains the various methods by which patrols may protect themselves and effectively gather information under combat conditions.

This particular film presents very difficult and peculiar technical problems, as it must be photographed entirely in daylight with "night effects" filters so as to appear on the screen as having been photographed after dark. Additional photographic difficulties are introduced by the fact that the faces of all of the men appearing in the film are blackened in accordance with usual military procedure to reduce the possibilities of detection by the enemy.

This Training Film will be made for the Research Council by Metro-Goldwyn-Mayer, will be directed by Roy Rowland; Sid Sidman, Assistant Director; Harry Cohen, Unit Manager; Jackson Rose, A.S.C., Director of Photography; Josiah Roberts, Operative Cameraman; Richard Dure, Art Director; Jay Dietrich, Film Editor; Charles Wallace and Henry Ross, Sound Technicians.

The film will be made from a script written by E. Maurice Adler, Charles Greene and Julian Heckfelder from information furnished by the Army Chief of Infantry.

Major Charles S. Stodter will act as War Department Liaison Officer, assisted by Lieut.-Col. Gordon P. Savage.

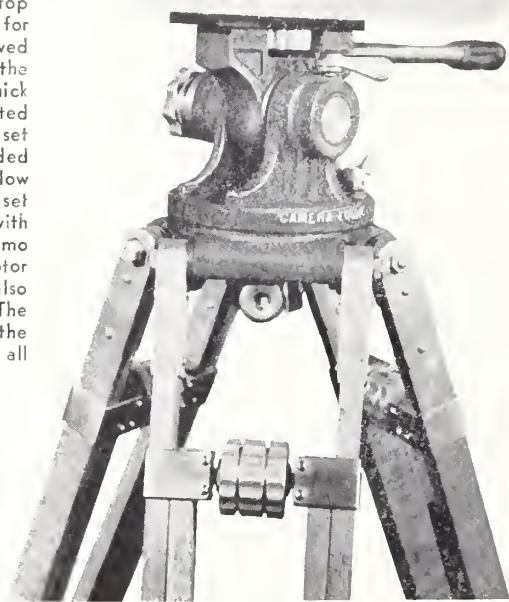
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A sturdy handle screws into the top to control the movements, but for carrying, is removed and screwed into a socket in the center of the base. Wooden legs locked by a quick release knurled knob can be adjusted for height by a twist of the knob set between each leg. The extended height of the tripod is 86½", low height 46". Top plate can be set for 16mm Eastman Cine Special with or without motor as well as the Eyemo 35mm camera with or without motor and 400 ft. magazines. It will also take the DeVry 35mm camera. The tripod legs are reinforced to the head to assure steadiness at all positions.

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"WEEK-END IN HAVANA"
Featuring
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MIRANDA, CESAR ROMERO
Director
WALTER LANG
Director of Photography
ERNEST PALMER, A.S.C.
Studio Chief Engineer
WALTER STROHM
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MAZDA lamps permit. You can slide them in anywhere;

Can Inkies help in Technicolor? "You bet," says 20th Century-Fox, and this scene from "Week-end in Havana" shows how they put G-E MAZDA lamps to work.

1. See how they've clustered "inkies" about the table to make the scene sparkle and to pick up desired detail here and there. That's taking advantage of the compactness in equipment which G-E

even, in some cases, concealing them in the scene itself.

2. Closely allied to this is their flexibility in mounting, for G-E MAZDA lamps burn in any position. You can hang them anywhere . . . above or below the scene or close to the walls to get the effect you want.

3. They offer you versatility which makes it easy to "paint with light" to create the effect you want or need. With a daylight filter over General Electric "CP" lamps, your light is color corrected for Technicolor; blends with arcs or daylight. Unfiltered, these lamps simulate the warmth of lamp light indoors. While by using standard G-E MAZDA lamps, you can create the glow of firelight. Are you taking full advantage of this help that G-E MAZDA lamps can give to make your pictures better?

GENERAL  ELECTRIC
MAZDA LAMPS

16mm. Tests

(Continued from Page 463)

sional 16mm. camera is so much less bulky and formidable-looking than the 35mm. equipment. Maybe it is because most of us in the industry at least subconsciously connect 16mm. with amateur, rather than professional filming, and accordingly with relaxation rather than work.

"At any rate, there is a greater feeling of informality on a 16mm. test-set. The actors feel less strained. They turn in an easier, more natural performance because of it. They show themselves off to better advantage, and at the same time give the rest of us a much better idea of what they really can do.

"This, incidentally, is based not only on my own observation, but also on the experience of those of my friends who in other studios have made 16mm. silent tests. Our addition of 16mm. sound to the 16mm. picture-tests simply made the test more complete, without robbing it of that very desirable psychological freedom.

"The quality we obtained in the 16mm. sound was a revelation to all of us. Of course it wasn't Academy Award recording—but it was so much better than the sound heard in many an independently-made 35mm. test that I'm sure none of us would have any hesitation about going into a production solely on the strength of what sound tests like these revealed about a player.

"The matter of convenience is important, too. In this case, my office was in the Hughes building. If we had made these tests in 35mm., I would have had to be away from my desk for a much longer period whenever I made a test,

leaving the building and driving to whatever studio might be used.

"Instead, these 16mm. tests were shot in an ordinary room located very conveniently in the basement of the Hughes building. When a test was scheduled, I simply walked downstairs and made it, and then was able to return to my office-work in a matter of minutes. This may not seem so important—but when you consider the amount of detailed work that flows through the office of a director who is preparing to make an important picture, you'll find this matter of convenience is a really important factor.

"Convenience in projection is another advantage on the side of 16mm. You don't have to wait until a 35mm. projection-room is clear; instead, you can bring in the conveniently portable 16mm. projection outfit and run and re-run the tests in your office, or in your own or the producer's home.

"I have been told that in some studios 16mm. is regarded as being likely to flatter a player in a way that cannot always be duplicated in the 35mm. production. This may be possible through the combination of the different optical quality of 16mm. camera lenses and the much greater proportionate enlargement when 16mm. is projected. In our case, we were perhaps fortunate in having two of the finest cinematographers in the industry involved—Lucien Ballard, A.S.C., who lit the tests, and Gregg Toland, A.S.C., who photographed the production.

"At any rate, I am glad to have been connected with the making of the first major-studio 16mm. sound tests. From every viewpoint, the use of 16mm. sound-films for this purpose has proven itself practical, and I am convinced that

16mm., used with professional care, can become increasingly valuable to 35mm. production." END.

Mexico

(Continued from Page 465)

as was ours, and straight story-telling. The struggle between ancient superstition and modern science is a story of many aspects. The colonies established by the Mexican government for Spanish refugees could be the basis for other stories.

The Mexican studios have actors capable of handling even principal roles, and many of them speak English well. As a matter of fact, the charming Mexican accent would be no handicap to a picture set there. With the use of a few "name" stars as leads, and with Mexicans for the other parts, a picture could be made that would be of great interest to an American audience, and have good money-making possibilities as well.

If national distribution is arranged in advance, half of your problems will be solved. Independent production finds its chief difficulty in distribution. If that is taken care of, and if you bring down a story that treats Mexican problems and characters honestly, you will have a fine opportunity to make a great film, and incidentally, you will be doing a great deal to promote solidarity and friendship between the United States and her sister republic below the Rio Grande. END.

Navy Photo Unit

(Continued from Page 467)

and R.A.F. carry on their work under grim wartime conditions.

Back in Hollywood, despite the calling of the cream of the unit's crop to active service, a healthy organization remains. Several fully trained and organized photographic divisions remain, together with such officers as Lieutenant-Commanders Bolton and Hansen, Lieutenant Toland, and others. These, for the present, will remain to recruit the unit once more to full strength, whipping further crews into shape as they are recruited. In this connection it may be mentioned that while the Photographic Unit has, so we understand, something of a waiting-list on the photographic side, there is a definite need of qualified sound-engineers. Contrary to the general impression, it appears that a surprising number of Hollywood's recording engineers are men older than the average cinematographer, or otherwise not qualified to meet the Navy's physical requirements.

That is, to date, as much of the story of "Hollywood's Own" Volunteer Naval Photographic Unit as can yet be told. Once the present emergency is over—whether it brings war or peace—we hope the rest may one day be related. But even in its present form, it is an inspiring story. What else can you call it when

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men like these—most of them safely beyond the age when the draft would affect them, many of them veterans of the last war, voluntarily give up jobs and salaries of the sort paid to the industry's top-flight Directors, Directors of Photography, and recording engineers, to serve their country wherever they may be called to make tactical, instructional and public-relations films under the most exacting of field conditions? Hollywood—and the country with it—may well be proud of the industry's democratic contribution to National Defense! **END.**

War in Africa

(Continued from Page 468)

Of his trip in Abyssinia, he writes:

"Your letter reaches me here in Addis Ababa. Yes, we have the Little Man safely back on the job—and what job he has on his hands, poor little fellow. I do not envy him and his task. If when this damn war is over, you would like to visit this country, we shall be welcome, even to the extent of making a film. And what a film could be made here, a wild dramatic people in a wild dramatic country! I am looking forward to the day when the German air force is like the Italian air force in this part of the world: nothing but burnt out wrecks on every field, and none in the air. A grand job done by a handful of men, many of whom I have met."

His work completed in Abyssinia, he paid a flying visit to the besieged garrison in Tobruk, about which he writes cautiously:

"Don't ask me how I got there for when an army is cut off and surrounded without hope of escape (the latter according to Lord Haw-Haw and the rest of his German pals) one should not be allowed to do such things. But this last trip—interesting if not comfortable—has surely convinced me that the Germans will never win and that the Empire is full of damn tough men."

This done, he followed the British troops to Syria, from where he writes:

"I'm spending my birthday in Beyrouth, and what a lovely place it is. We were among the first officials to enter the city, a day before the troops entered. What a welcome we received, and how the French are divided. It will require a great leader to unite France into a solid nation after this foolishness is all wiped up, but rise again she will, a wiser France, but until then she must suffer. Poor France! Britain is also suffering for her soft years, but it is a different suffering, easier to bear. We find the Christians here very much for us and anti-axis, while strangely enough the Mussulmans are rather reserved. They have been pumped full of German propaganda and want to wait and see. This country is very much like Southern California, but instead of the blue Pacific, there is the even bluer Mediterranean. Damas-

cus, the most often-conquered of all cities, just seems to take it as another day.

"I made a rapid tour of Palestine before coming up here, visiting Bethlehem, Nazareth, and of course Jerusalem.

"I have nothing but admiration for the new Jewish spirit, for those people, most of whom have been thrown out of European countries, have really gone to work when given a chance in their new home. I have never seen such well cared for orchards and farms, and fine clean shops with attendants who meet you with a smile and give you a cheerful farewell whether you have made a purchase or not. I have met settlers from Poland, Germany, the United States, and other parts, all cheerful."

This last letter brings his mail to date, and therefore, so far, I do not know what his latest activities have been, though I presume that he was sent to Iran. **END.**

Motion Paintings

(Continued from Page 469)

sometimes the camera may even be panned or tilted a trifle. But in nine cases out of ten the actual results on the screen would not be materially changed if we clipped a single frame from each scene and projected the clippings in a minislide projector.

Such a travelogue is emphatically *not*

a motion picture in the dramatic-feature sense. It is all very well to say that it is about all that is possible under the travel-filmer's field conditions: but that argument hardly holds water. There are plenty of simple, well-known cinematic principles which can be applied in the field to inject cinematic motion into almost any type of scenes.

For example, an intelligent combination of camera-angles and cutting can make many an actually static subject take on an illusion of life and movement on the screen. One of the best-known instances of this is the example cited by the well-known Russian cinematographer, Vladimir Nilsen, in his book "The Cinema as a Graphic Art," where he describes the precise cuts and compositions necessary to produce a screen effect of an equestrian statue rearing up and plunging forward to crush a character beneath its stone hoofs.

Another invaluable aid is the use of the moving camera. The travelogue-filmer in the field hasn't the elaborate crane and dolly equipment the studio cinematographer has, but he can in many instances improvise very acceptable substitutes. He may not have to use the makeshift that Charles G. Clarke, A.S.C., employed some years ago when in making a silent-picture sequence on a railway-train, the director suddenly called for a moving-camera shot along the corridor of a coach. In that instance, Clarke stopped the train at the first town, bought a child's coast-

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er wagon, and rode it, Eyemo in hand, to make the shot. In another instance a cinematographer of my acquaintance, needing a dolly-shot while making a travelogue in Yellowstone, borrowed a two-wheeled automobile towing-dolly from the park garage, and built on it a wooden platform strong enough to hold him and his bipack-equipped Mitchell.

But today's travel-filmer almost always has such resources as automobiles motorboats, airplanes, and the like, and running-shots made from them will add motion to many a scene.

A moving camera, directed at otherwise static objects from a quarter angle will, in addition to the fact of motion, create an illusion of almost stereoscopic depth and roundness. In the same way, if the camera is moved spirally around a static subject, the differential movement of the various planes of the composition will give a strikingly third-dimensional effect. By using these methods on static scenes I've found it possible to keep a feeling of motion at all times without destroying the artistic values of any desired composition.

We recently proved that this type of moving-camera technique can be applied to travelogues even when far from the usual civilized conveniences. We were making a fishing sequence for a recent color-shot on British Columbia sports, deep in the heart of the British Columbia mountains. Building an improvised catamaran from a pair of rowboats, lashed together and covered with a platform, we made a floating dolly which, powered by a quiet outboard motor, gave us the necessary motion in what would otherwise have been a rather commonplace travelogue scene.

In short, combining these basic principles of seeking the character-interpre-

tation of a land through a study of its paintings and translating them to the cine-camera's celluloid ribbon with an understanding application of the fundamental laws of cinematic motion and tempo will, I am sure, do much to lift the travelogue of tomorrow out of the "picture-postcard" class and make it a genuine piece of cinematic art—in all truth a "motion painting." **END.**

Business-Film Studio

(Continued from Page 470)

Chicago. It was started some ten years ago, about the time when Forrest Calvin and Lloyd Thompson were emerging from the University of Kansas. Calvin finished school first and was out in the business world getting practical experience; Thompson, still finishing his college studies, found the motion picture bug biting harder all the time. Before Thompson had finished his last year in college, he and Calvin had decided to start an organization for the production of direct-16mm. commercial movies.

At that time it was their plan to produce only silent pictures, for practical 16mm. sound was still in the conversational future. But of course 16mm. sound came along in due time. Though there were many who said it couldn't be done, Calvin and Thompson determined to produce a sound picture by the direct 16mm. method and prove that it was practical. They believe that they were the first ones to produce a feature-length production of this type, making use of offstage voice, lip-synchronized dialog, sound-effects, music and so on.

That was several years ago. Since that time many things have taken place. Due in no small part to their efforts, and those of a few equally far-sighted pioneers like them, direct 16mm. as a

business-film medium has definitely arrived, both commercially and technically. Their pioneer organization has arrived with it. Today there is a permanent staff of 18 people, including laboratory-men, machinists, cameramen, sound-men, directors, writers, salesmen, advertising experts, and the necessary clerical and labor staff, with additional, specialized personnel—musicians, actors, technicians, and the rest, "on call" when their services are needed.

Today, these 16mm. pioneers are still pioneering. Devoted heart and soul to the business and technical potentialities of direct 16mm. as the ideal medium for business films, they are bending every effort to advance the business technically, and to stabilize it in a business way. As an example of this, they have been the first to recognize that in business film production they are dealing with men who are not accustomed to accepting all the variables which make the costs of motion picture production—theatrical or commercial, 16mm. or 35mm.—subject to such great variations. Accordingly, they have worked out price schedules which, like Hollywood's unofficial but accepted classifications of "A" productions, "B" productions and "quickies," enable them to set a business-like price-tag on each type of production and other service they offer, and hold as accurately to that schedule and budget as does Hollywood's Bryan Foy or any other top-flight program-film producer.

And their production technique is constantly advancing, keeping step with the advances in 16mm.'s technical resources. In one film produced last fall for an insurance company, the Calvin organization turned out a production which, they rightly feel, embodies an unusual number of "firsts" for a direct-16mm. production. The film was a 100% synchronous show in sound and color, and ran for approximately one hour. So far as I can determine, this was the first all-color, all-synchronous 16mm. sound production to be produced throughout by the professional re-recording technique.

The film was called "Once In A Lifetime" (no relation to the play!) and a song by the same name was written to be used as the theme-song of the picture. During the story, the heroine sang the song, which was dubbed in to a pre-recorded playback as is the custom in Hollywood. The film was completely re-recorded, and optical trick-effects were used throughout the production. In other words, for what is perhaps the first time, the whole of Hollywood's best picture and sound technique was applied to the making of a direct-16mm. picture—and applied as successfully as would be expected in any but the finest of Hollywood's major-studio "specials." In fact, many an audience, seeing this film projected on a theatre-size screen with modern 16mm. arc equipment, has left the showing pleasantly convinced it had seen a 35mm. Technicolor production! **END.**

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Bob Planck

(Continued from Page 472)

sults will usually be so highly individualized that they might very easily be taken for pictures of as many different girls.

"But—especially in cinematography—this individualized treatment should never be allowed to become stylized to the point where the individuality of the player is subordinated to the individuality of the cinematographer. Personally, I would hate to have my work become so individual that a person could see two unrelated close-ups of two different stars screened one after the other, and exclaim, "Bob Planck must have shot those—and didn't he do a lovely job!" Such a comment would be flattering, I'll admit. But I'd much rather have them remark that they'd never seen Norma Shearer look so fresh and youthful as she did in that first one, or Hedy LaMarr so alluring as she seemed in the second—seeing in each case only the personality I had tried to picture, and completely forgetting the part that either the camera or Bob Planck had played in putting those two personality portraits on the screen!" END.

Aussies' Comedy

(Continued from Page 476)

viously fitted for their costume, just to ensure that there would be no misfits. Our *Property-man* was then given the costumes. It was his duty to see that all fancy costumes and incidentals, such as custard pies, were on the set when required.

Our property-man was very busy when the great day arrived. He must have been on the set hours before us because he had a tent erected when we arrived and had nailed notices on trees informing us where to leave the main road for our location. Another job this stalwart did was to hold a slate with the number of each scene marked on it in front of each camera before every shot. By this method we were able to quickly select each scene when editing the film.

To make sure that players arrived on the set correctly attired, we elected a *Script Girl* who also marked on the working script each shot as it was filmed. Then before packing up, we were able to check these marks and make sure that each shot had been taken.

The accompanying scenario and working script was filmed by members of the Australian Amateur Cine Society in five hours. We had many copies of these mimeographed so we could hand one of each to every cameraman and player a week before our outing.

This film story is quite complete and practical. It could easily be adapted to suit local conditions by most cine-camera groups, and although our film is far from International Competition standard, it still would not disgrace any screen; in fact, in these days when the very

heavens are falling on some of us, films of this type are particularly appreciated.

We commenced work on location one holiday at 9 a.m., stopped for a picnic lunch at 11 a.m., then at 1 p.m. we started again, and finished in time for afternoon tea, a friendly chat and a bottle of beer at 4 p.m. The reason for our early lunch was that we wanted to miss the overhead sunlight between 11 a.m. and 1 p.m.

Shooting these 30 scenes in this length of time is, as any amateur who has tackled a scenario film will realize, very creditably fast work: but it was excelled by one member of the Society, Allan Burgess, who not only filmed the picture, but processed his film himself and had his version of the production, completely edited and titled, on the screen at the Society's meeting the following evening! There's a record for such home-processing enthusiasts as Raymond Fosholdt, of California's Long Beach Cinema Club, to shoot at!

Those more advanced in Cinematography will notice that there are too many medium-shots mentioned in the scenario. The reason for this was that we expected many cameramen and as each close-up would take about five minutes per camera, we decided to standardize on camera positions whereby many cinematographers could have one shot at each scene. This did not prevent those among us with turret cameras using our 2" and 3" lenses for close-ups.

One last suggestion, don't make arrangements for the gang to meet on a street corner; some are sure to be late and cause anxious members to start the day in a bad humor. On location is the place to meet. END.

Scenario

(Continued from Page 477)

in their underpants are struggling to rise. Scattered about them are portions of the girls' clothing and a pair of step-ins is tossed over the bush and falls on George's head.

Scene 20: M.S. Kath and Jean walking along, searching for their clothes, see George and Harry; run in their direction.

Scene 21: M.S. George and Harry have risen and have gathered the girls' clothes together.

Scene 22: M.S. Kath and Jean rush in and start kicking and pulling George's and Harry's hair.

Scene 23: M.S. The two cops hearing the din turn about and run.

Scene 24: M.S. Cops arrive and without asking questions, start into fight.

Scene 25: S.C.U. Dave and Bill watch the fight from behind a tree.

Scene 26: M.S. Kath picks up custard pie to aim at Harry but misses aim. Hits cop, etc.

Scene 27: S.C.U. Dave and Bill turn; expression alters from smiles to look of amazement.

Scene 28: S.C.U. Very big cop with

serious expression looks down on Dave and Bill.

Scene 29: C.U. Two cops (unconscious) sitting on grass back to back, covered with custard pies. FADE OUT.

Working Script

(Continued from Page 477)

Scene 13: Camera front. C.U. Bill sees cops.

Scene 15: Camera right. M.S. Fight stops, scene of four lovers. Cops enter scene.

Scene 16: Camera right. M.S. Cops walk out of scene.

Scene 17: Camera right. M.S. Con-

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victs wait for cops to get out of sight, then start to forcibly remove clothing.

Scene 19: Camera right. M.S. G. & H. in underclothes, very dazed with some girls' clothes scattered around them.

Scene 21: Camera right. M.S. G. & H. start picking up girls' clothes.

Scene 22: K. & G. rush in and start kicking.

Scene 24: Camera front. M.S. Two cops rush in to fight.

Scene 26: Camera front. M.S. Kath picks up pie to aim at H., misses and hits a cop, then six players conduct a pie-throwing episode.

Location No. 7: Tree background.

Scene 29: M.S. Two cops lying on ground unconscious, and covered in custard pies. FADE OUT.

Lighting Backgrounds

(Continued from Page 478)

light-sources than if you're playing for more normal effects. And if you are using a contrasty film, you'll want to light with less contrast—a narrower ratio between highlights and shadow illumination—than you would with a film giving a soft or flat contrast.

In general, too, I would be inclined to advise that you light your scene as amply as possible, even if it gives you more illumination than you really need if you're to use your lens at its widest opening. After all, there is no law that compels you to use an $f:1.9$ lens at its largest aperture—and there is a great deal to be gained by stopping the lens down to a smaller opening. You'll find that scenes shot at smaller apertures will give you better definition, greater depth of field, and more snap and sparkle than is possible with "wide open" shots. That, of course, was one of the secrets of Gregg Toland's remarkable work in "Citizen Kane"; he shot nearly all the interiors at apertures of $f:8$, and on some scenes even stopped to $f:11$ and $f:16$. That, of

course, is out of the question for home movie-making, as it would demand far too much light. But you can improve your interiors — especially the Kodachrome ones—by shooting them with the lens closed down a stop or two below its maximum aperture.

Finally, if you want to improve your lighting of interior scenes, go to your neighborhood theatre and study the interiors you see on the professional screen. Especially, study the lightings you see in "B-pictures" and the series-type "family" films in which so many scenes are laid in sets representing the rooms of ordinary American homes. If you will study what the professional cinematographer does in these scenes—not the spectacular effect-lighted ones, but the simple, "run-of-the-mill" interiors you'd seldom notice otherwise—you can pick up innumerable pointers that will help you in lighting your next interior scene in your own home. Try it! END.

Added Scenes

(Continued from Page 479)

different train at Boston's Old South Station—or almost any other, for that matter. You can often work the same trick with airliners, busses, and the like, and sometimes even with boats. And of course if you drove, well, a close shot of your car's wheels rolling along a highway near home can double for highways in almost any other part of the country—so can a close shot of you or the wife loading or unloading the luggage. Shots like that are great continuity peppery.

If you missed some of the scenic long-shots of a famous place, due to bad weather, that's still no reason for being downhearted. Just get some good stills of the scenery you missed—in color from a travel-folder, if your reel is in Kodachrome—and put it into your titler. Slide the still slowly sideways or up or down as you shoot, and you'll get a surprisingly good illusion that you panned

the camera. Be sure, of course, that you pick stills with no people, traffic, or other normally moving objects to give the trick away!

If you've a very powerful minislides projector, you might even be able to get away with a small-scale process-shot. Project a slide of the desired background onto a small translucent screen big enough to serve as a background for a close-up of a person, photographing both the person and the projected background with your cine-camera. In trying this trick, you'll have to balance your exposures and lighting carefully—always light the actor from the sides and above, keeping all light off the screen, and making sure the direction of lighting is the same as that shown in the background-picture—and you'll also have to take great pains to coordinate the viewpoints and perspective of your foreground camera and the background picture; otherwise the result will look phoney on the screen.

So, if you're caught short on some of those scenes you really need to round out the continuity of your vacation picture, try filling the gaps with some "added scenes." After all, within sensible limits a tree is a tree and a rock is a rock, regardless of where you shoot them—and close shots made at home can give a perfect illusion of being shot with the rest of your vacation scenes if you only use a little imagination in shooting them and cutting them into the rest of your picture! END.

Commercial-Film Headaches

(Continued from Page 480)

pendent power-line to feed his lights. They were all ready to shoot again when two advertising men and a plant engineer blew in.

"The shot you're taking," they told him, "won't mean a thing to the picture. What we particularly want to show is the unique way our patented ephus goes into the whatzit."

"Oh," said our hero, and made another set-up to conform to this new concept. The camera was just about to get its button pressed when somewhere far off in the outer darkness, a whistle blew, and workmen started leaving in droves. It was quitting-time! Our hero rounded up the Super. Couldn't some of the men be prevailed on to remain? We were all ready to shoot . . . Sorry; union rules; have to pay 'em overtime if they stayed. Besides, they hadn't turned out more than an hour's work all day, what with the fuse-blowing, the confusion, and all. Anyway, he hadn't been given any orders about movies.

There followed sweaty days and sleepless nights. Days marked not by numbers but by minor catastrophes. Nights in which our Patient tossed feverishly in his bed, grinding his teeth and wondering why he had ever found movie-making so much fun.

But finally it was finished. At least the shooting was. He had shot more mechanical gadgets than he had ever

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thought existed. A darn sight more than Oakes and Doakes and he had discussed that first memorable morning. He was particularly proud of one shot he had made, that close-up of a steel bit or chuck or whatever it was, cutting down metal to within 1/10,000 of an inch. That was a good shot and he had spent a lot of time getting it. Tonight he would get everything ready. Tomorrow the client would look at the "rushes." It was about time to collect. Our Patient felt better.

The client shook him affably by the hand as he seated himself next to the projector. He overheard Mr. Doakes whispering "I had him bring all he has shot. I thought we might as well choose what should and what should not go into the picture." He knew he didn't like Doakes . . . or even Oakes, for that matter.

The projector started to hum. The film had been spliced together with no attempt at continuity—just transferred from the laboratory reels to a generously filled 1600-foot reel. It represented everything he had taken . . . well, almost everything. The wind blew the venetian blinds from the window, letting the sunlight stream fitfully into the room. Reluctantly, our hero poured the results of his two months' work through a channel of light in the half-lit room.

The only sound that broke the silence was the whirring of the projector. As he stood beside it, our hero sensed that something was missing. He didn't know what it was, but it was the murmur of approbation that had always accompanied the showing of his movies at home. Today, not a sound came from the audience.

But all too soon it came. The interior stuff began to unreel and the client said, "What makes 'em look so red?" Then, "Why is everything so dark?" That was Doakes. "What makes everybody move so fast?" That was Oakes. Our Patient wanted to explain that he had only just learned that the normal speed for sound was 24 frames per second rather than the silent-picture 16-frame speed he'd been using. But the client interrupted, "No, no! I don't want to show that piece of machinery; it's an old type! Didn't you get the new one?" Our hero didn't know . . . there had been so many machines—!

At any rate, though, he thought, that shot of the lathe will make 'em sit up. Finally the last scene before that close-up came on. Then the screen went black. "Is that the end?" asked the client. Ten seconds later, as the next scene duly flashed across the screen, our hero realized he had made that superb close-up—with the lens-cap on!

It is best to draw a merciful curtain over the rest of that session, and the ones that followed. His troubles certainly hadn't ended with the shooting, even after going back to shoot 500 expensive feet more of the bits his client had missed at the preview. There had been cutting and re-cutting as minds were changed again and again. The

poor film began to look as if it had been shot in a rain-storm. There had been the writing of narrative—somehow there were always too many words to be said during the short scenes, and not nearly enough during the long ones. And sound-recording and making the composite color-dupe ate up more money than he had imagined possible . . . especially when some of the original recording didn't suit the client and had to be done over.

But at long last our Patient, in the comparative comfort of his own living-room, smoothed his newly-gray hairs and studied his expense-book. For the tenth time he figured his costs and receipts on the job. Every time he got the same answer—a net profit of only \$2.31. It didn't seem possible that a thousand dollars (plus) could be swallowed up so quickly. Two dollars and thirty-one cents—well, not everyone made a profit on his first job.

"Two dollars and thirty-one cents in all these weeks," said his wife. "And if you'd stuck to your old job you'd have made about five hundred dollars—and had time to enjoy your movie-making besides!" The "little woman" always was practical. **END.**

Football

(Continued from Page 481)

substandard cameras offer is fine, but expensive: you can do very nearly as well using 48-frame speed, and save a lot of film and money. This speed is quite slow enough on the screen to let you study the play carefully; most coaching films are shot at this speed, for if there's any reason to want additional slow-motion analysis, the average projector can be slowed enough to give the equivalent of 64-frame slow-motion and still not produce too unpleasant a flicker.

If you can afford it, I'd certainly recommend Kodachrome for any football movies. The color-film makes it much easier to follow the play, for the color-contrasts between the green grass of the field and the contrasting colors of the players' jerseys make plays and players



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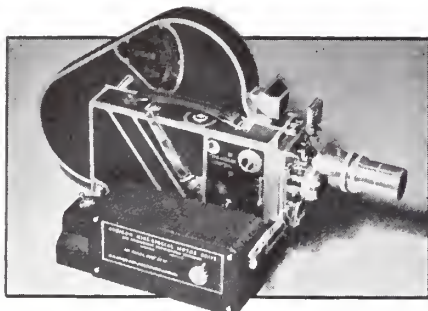
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stand out in a way that's impossible to capture in black-and-white. In color, there's rarely any question as to whether your team's No. 77 or the opponent's No. 77 made the play!

If you *do* use black-and-white, though, you'd better come prepared with two types of film, to allow the most efficient filming under the varying light-conditions you'll encounter in the course of the game. During the first half, the field is likely to be bathed in brilliant sunlight, and exposure won't be much of a problem. So for your earlier scenes use a comparatively slow-speed and inexpensive ordinary panchromatic.

Later in the game, though, as the sun sinks closer to the horizon, you'll find in most stadiums that more and more of the field is in shadow. For this part of the game you'll need a faster film, like Super-X or Super-XX, so that you can still get a full normal exposure and at the same time keep your lenses reasonably well stopped down for maximum depth and definition.

Determining your exposure is likely to be something of a problem, for working with telephoto lenses your camera will be taking in a much smaller field than your exposure-meter will from camera-position. Often the chaps who film football professionally solve the problem by simply sending an assistant down onto the field at intervals, to take meter-readings close to the subject. But I'm inclined to think that the average amateur could do quite as well making use of the "high-light" exposure-metering system recently described in *THE AMERICAN CINEMATOGRAPHER* by P. C. Smethurst, who told of a system of taking incident-light readings by measuring the light reflected from a matte white card held in front of the meter's cell and of course exposed to much the same type of light that illuminates the subject.

Using a moderate-powered telephoto lens which shows the whole play rather than concentrating on a single player or two eliminates one of the tougher problems the newsreel men have to contend with. In an extreme, "newsreel-type" telephoto shot, you've got to have what amounts almost to a sixth sense to "smell out" the play as it develops. Otherwise you may find yourself innocently following some player who maybe had the ball at the start and faked it to a team-mate, or maybe didn't have it at all—and meanwhile, some other ball-packer out of the picture is sprinting away to a touchdown!

But using an angle that shows the play as a whole, you can follow the ball much easier, no matter how much "razzle-dazzle" and deception is involved.

On pass plays, and long runs, too, you'll probably find it most interesting to frame your shot with the ball or ball-carrier well toward the back edge of the frame, rather than keeping him directly centered. In this way, in addition to watching the ball or the runner, you can watch how the pass-receiver gets into place, or the interferers or tacklers come in to do their part.

Finally, if you want really good football movies, remember to approach the job, not as a football-fan, but as a photographer. If you get excited over the game, you're all too likely to miss an important shot, or at least do something with only half your mind at work, and bungle it. **END.**

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Idea Exchange

(Continued from Page 482)

ing the board to your usual tilthead, or you can fasten the board directly to the tripod-top, and use an individual tilthead under each of the two cameras.

The way you can put this gadget to practical use are almost endless, and limited only by your supply of camera-equipment. If, for instance, you have two cine-cameras, you can put both of them on the twin-head, and use one with a normal or wide-angle lens, and the other with a telephoto. In this way you can shoot your long-shots as usual with one camera, and get close-ups at the same time with the second camera. You've no idea what a difference it makes in one's pictures to be able to do this: we all know that one of the outstanding weaknesses of most home movies is a general lack of enough close-ups, and with a set-up like this you can get close-ups with virtually no additional trouble or effort.

Sometimes you may want to get both color and black-and-white versions of the same picture. In this case, you can simply load one camera with Kodachrome and the other with black-and-white, and shoot your scene with whichever you prefer, or both.

For shooting news events such as parades, football-games, and the like, the twin-head is a life-saver. I simply use two identical cameras, with identical lenses and film, on the twin-head, and alternate from one to the other. While I'm shooting one camera my chief assistant (my No. 1 son) winds and reloads the other. In that way we can cover a parade or a football-game completely, without losing anything.

HARRY A. WARD, JR.

Photography of the Month

(Continued from Page 475)

almost incredible achievement.

We had gained the impression that the Indian cinematographer, due to economic and other restrictions, tended wherever possible to avoid studio interiors. But in "Gyandev," at least, this is by no means the case. To our view, the interiors were in many ways the best part of the film. Some of them were simple; others surprisingly expansive.

But Cinematographer Dutt has handled them well. His dramatic lightings—especially in the early sequences—are strikingly effective, and very sensitively handled.

The exteriors are not always quite so pleasing. Dutt was undoubtedly hampered by India's tropical weather-conditions. There are some scenes in which he has had to face the problem of a background of sunburned, yellowish hill-sides in a blazing sun, with his foreground action in natural or artificial shadow. He could not—as a Hollywood major-studio cinematographer might do—spray several acres of a hillside to a darker shade, nor did it seem possible that he could effectively use a large scrim between foreground and background. One cannot help wondering, however, why he did not attempt the use of a neutral-density filter as a means of correcting the strong contrasts. Others of the exteriors, however, were quite good. Some showed excellent pictorial quality.

A very striking feature of the film was the way these Indian technicians—presumably because they lacked facilities to do otherwise—have filmed by straightforward methods a vast deal of action which we would do as process-shots. And they do it exceptionally well, too. The sequence in the farmer's bullock-cart is an outstanding example of this. It is, also, one of the highlights of the production. Technically very well handled, this sequence reflects great credit upon co-directors Fahtelal and Damle for the way they have coordinated the rhythm and, presumably, the wording of the song being sung with the rhythm of the action accompanying it on the screen. This sequence, in this respect, takes place in this reviewer's mind, at least, among the half-dozen most effective musical sequences he has ever seen. Throughout the film, in fact, Fahtelal and Damle have shown an understanding of cinematic rhythm and tempo superior to that shown by many a Hollywood "ace" director.

The special-effects work in this film is another noteworthy highlight. With the exception of one projection-process sequence used for "trick" effect, much of the trick work must have been done directly in the camera. It is most capably done, too: Cinematographer Dutt has turned out some shots—such as the "flying wall"—which are definitely su-

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perior to those seen in last year's Academy special-effects Award Winner, "Thief of Bagdad." There is, for instance, no comparison possible between the "flying horse" and "flying carpet" sequences in the latter picture and the much better-executed "flying wall" in "Gyandev."

All told, "Gyandev" is a picture worth seeing, if only to see what India's self-taught film-makers are capable of doing. The story premise may seem strange to American minds; so, too, will details of dialog, costuming and the like, while the camerawork and sound lack the perfect uniformity of a Hollywood production. But there is an intelligence and sincerity to the film that commend it highly to anyone seriously interested in motion pictures, regardless of where they may be made.

HOLD BACK THE DAWN

Paramount Production.

Director of Photography: Leo Tover, A.S.C.

"Hold Back the Dawn" is one of the more powerfully emotional screen offerings of recent months, and Director of Photography Leo Tover, A.S.C., has a great deal to do with making it so. From a strictly technical viewpoint one can find flaws with some of the exteriors—such as, for example, the tonal unbalance between some of the low-keyed interiors and closely intercut high-key exteriors—but he has turned out a production in which camera and lighting do most remarkably to build and enhance dramatic mood.

Tover's treatment of some of the more dramatic sequences of the film is exceptional—sensitively keyed and at the same time highly pictorial. His dramatic portrait-lightings of the close-ups of Charles Boyer are striking, while his treatment of Olivia DeHavilland ranks with the best she has ever received. His handling of the sequence in the little Mexican village and its church is an outstanding pictorial highlight of the film. All told, "Hold Back the Dawn," while in some ways photographically "spotty," is a remarkably fine example of the value of fine dramatic camerawork.

ALOMA OF THE SOUTH SEAS

Paramount Production (Technicolor.)

Directors of Photography: Karl Struss, A.S.C., and Wilfred Cline, A.S.C.

From all the indications so far screened, there are rapidly coming to be three clearly-marked schools of color-cinematography. One, exemplified in "Blood and Sand," seeks to use color for strikingly dramatic effect; another, exemplified in "Blossoms in the Dust," seeks to subdue color for realistic illusion; and the third, excellently exemplified in "Aloma of the South Seas," seeks apparently to paint with a lavish brush for pictorial effect and dramatic illusion.

"Aloma" is certainly one of the most richly pictorial color-films seen in a long time. Karl Struss, A.S.C., and Wilfred Cline, A.S.C., have turned out a job well worthy of comparison with the spectacular "Thief of Bagdad."

Scene after scene is of eye-arresting pictorial quality. A purist might well ask why a more strongly directional scheme of source-lighting was not used in place of the more uniform "pictorial" lighting employed; he might also question the perfect beauty of the colorful setting as untrue to life: but the story itself is of the romanticized type, idealizing the locale and characters. Had the camera-treatment been keyed more realistically, much of the desired dramatic effect would unquestionably have been lost. As it is, Struss and Cline have delivered a lovely, if idealized example of pictorialism in Technicolor.

Some fault can, however, be found with the make-up, especially in the case of Jon Hall, whose generously-exposed skin-texture varied incredibly in many scenes. It is possible, however, that some of this may be blamed on the fact that the script demanded that he swim in the lagoon, regardless of whether or not his make-up was waterproof!

The special-effects and transparency process-work by Gordon Jennings, A.S.C., and Farciot Edouart, A.S.C., is outstanding. The climaxing sequence of the volcanic eruption is one of the most notable sequences of its kind screened recently.

BUY ME THAT TOWN

Paramount Production.

Director of Photography: Theodor Sparkuhl, A.S.C.

"Buy Me That Town" was, for a major-studio production, turned out on a "quickie" schedule and budget, but it is an excellent picture—and most entertaining—none the less. Cinematographer Sparkuhl's work definitely shows the pressure of drastically limited working time; it is effective, but frequently lacks the smoothness of his "A-picture" work.

The action is played largely for comedy, but none the less gives Sparkuhl a

chance for a number of pictorially and dramatically useful effect-lightings. He has handled these very well, though usually staying on the conservative side, as might be expected in a short-schedule film of this type. His treatment of the players is excellent. In some sequences, however, some criticism must be levelled at his diffusion and definition technique: frequently there are very badly-matched cuts from virtually undiffused long-shots to closer angles filmed with comparatively heavy diffusion. There are also similar lapses as regards depth and definition; in some instances, the closer angles carry considerable depth of field, after the modern manner, while others, for no apparent reason, have apparently been shot more conventionally, and lack both depth and definition. Some of the Infra-red night-effect shots have also been made with disturbingly higher contrast than the intercut, artificially-lighted night scenes of closer action.

There are some excellent bits of visual "business," as for instance the smoothness of the two opening shots, the strictly visual gag of the pedestrian-crossing sign, and the final "whirl" transition. On the other hand, the various optical montage sequences—especially the rehabilitation of the village—lacked coherence. In the sequence mentioned, there was too much similarity in the various picture-elements used, too soft a blend, and the various elements changed virtually together, with no attempt at rhythm or pictorial design, and producing an unnecessarily static effect rather than the dynamic impression desired in a montage. The cutting in some sequences—especially one in which Lloyd Nolan and Constance Moore go for their moonlight drive—showed complete disregard of the elementary principles of continuity of motion, in one instance intercutting a shot in which the car was seen travelling screen left with another in which it travelled screen right.

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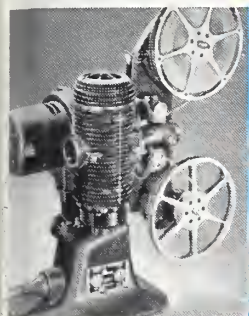
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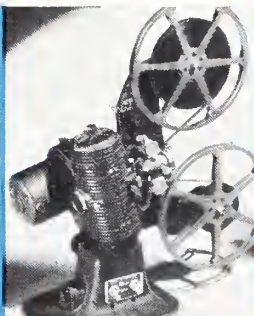
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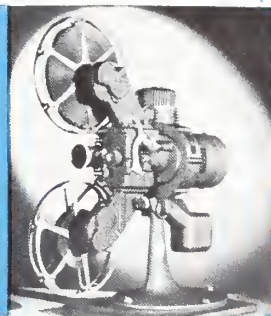
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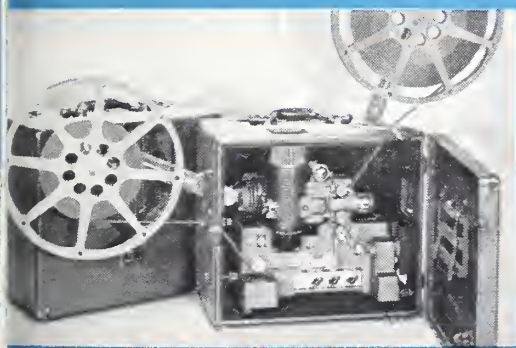
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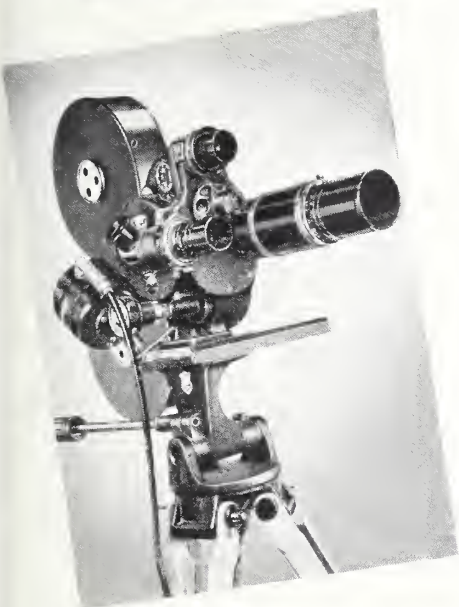
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VOL. 22

NOVEMBER, 1941

NO. 11

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The Front Cover

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By ALVIN WYCKOFF, A. S. C., D. Sc.

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Today we learn that Gasparcolor *has* come to Hollywood where it is being launched with adequate financial and technical backing, with such well-known figures as George Converse as President, Captain James Roosevelt as Vice-President, and A. J. Guerin, A.S.C., as manager.

Essentially a printing process, Gasparcolor is today available in both two-color and three-color versions, for direct 35mm., 16mm., and 16mm.-to-35mm. color enlargements. Based on the use of a special, dye-coupler reversal-type positive film, Gasparcolor prints can be made in any standard black-and-white film laboratory with only minor modifications of methods and equipment, and with a remarkably full range of control. No form of imbibition or color-flotation is used.

The Gasparcolor process is a product of the scientific mind of one of Europe's foremost color researchers, Dr. Bela Gaspar. Conceived and perfected in Gaspar's European laboratory, the process has now been adapted to American standards of equipment, methods and quantity production. Gasparcolor raw stock is manufactured in the United States exclusively, and is available in any desired quantity and gauge. The manufacturing process incorporates the color dyes in predetermined quantity and quality, and in both three- and two-color stock.

The two-color stock has two emulsions, one on each side of the celluloid base.

These consist of a normal reversal-type silver emulsion with the addition of blue dyes on one side, and a mixture of red and yellow dyes in the emulsion of the other side.

The three-color stock, as it is manufactured now, has two layers of dye—magenta and yellow—added to the silver emulsion on one side; the silver emulsion of the other side carries a layer of blue-green dye.

There is no intricate mystery in the manufacture of the raw stock; any manufacturer of motion picture film can produce it, thereby opening his participation in the color field by supplying a special stock to the industry.

After separation negatives have been made either direct in the camera or from a master Kodachrome original, intermediate positives are made by printing the separation negatives on black-and-white fine-grain stock. These intermediate positives are then used to print on color stock.

If it is desired to reproduce in two colors, the intermediate positive made from the blue separation is printed upon the red layer, and the intermediate positive from the red separation is printed upon the blue layer.

If the three color process is desired, the intermediates from the red, green and blue separations are printed on the blue-green, magenta and yellow layers respectively. The printed color stock is then developed.

The printing lights are determined as they are in black-and-white practice and regulated in the same manner, as the final dye-image is controlled by the density and gamma of the silver image.

After development and washing, the film is fixed, conducted through a dye-coupler bath, washed, and in the subsequent solution the residual silver solution is destroyed. The film is again fixed, washed and dried.

The resulting color film is a base covered with gelatin containing the pure dye-image without any silver whatsoever, except in the sound-track.

The sound-track is redeveloped before the final fixing by the aid of a simple

device, consisting of a small wheel with a concave profile, that applies a redeveloping solution of a fairly thick consistency over the area of the sound-track.

The quality of the final dye-image is controlled through the various stages of the process by the initial silver image, the quality of which is in turn controlled by the technique employed to control any black-and-white image.

The final dye-image is a composite image consisting of two or three dye-part images. To secure the final print, these images must be printed in perfect register on precision step-printers equipped with registration-pins. Another requirement of the printer is that it should be equipped with a constant light source that can be regulated by a variable shutter, or changing aperture, or other reliable mechanical method that will be effective in the required changing of light-intensity.

There is also available an optical skipping-printer for the purpose of separating every other negative image in the case of the alternate-frame, single-negative two-color used in cartoons etc., printing alternate frames, or every third image in the case of three-color cartoon negatives, printing every third frame, in order to get the color separations as consecutive images on two or three separate films, respectively, to be printed onto a single color-film position in register.

In all other respects, a laboratory using the Gasparcolor process would use the same equipment and meet the identical requirements of any efficiently conducted black-and-white processing laboratory.

The optical quality of the finished print is smooth and transparent, devoid of any objectionable grain, as the size of the dye particles that combine to form the image is only a fraction the size of the silver grain. Although the dye-image reproduces faithfully the silver image, thereby also reproducing the individual silver grains by forming the composite image in several overlapping part images, the definition of the composite image is at least equal to that of black-and-white, and in many instances renders finer tones than those of the black-and-white film serving as the intermediate positives.

The viscosity of the emulsion of the Gasparcolor stock is constant and identical. The coating is accomplished and regulated with the same technique and machinery as with normal black-and-white. Thus a fluctuating density cannot occur unless a mechanical disarrangement takes place in the regulation of the printing process.

For obtaining the master negative, any 35mm. three-color camera that can produce a rock-steady image, or any 16mm. camera such as the professional Berndt-Maurer, Bell and Howell, or Eastman Special, using Kodachrome, will be adequate and render good results, according to the operator behind the camera.

Excellent separations and blow-ups from 16mm. Kodachrome to 35mm. Gasparcolor are being obtained with definition comparable to original 35mm. separations of equal original quality and gradation.

In making enlargements from 16mm. the master Kodachrome is never projected or otherwise handled beyond absolute necessity. No attempt is made to lacquer the original or to correct any defect that might appear. All corrective work is done on subsequent negatives and positives, including the printing of edge numbers, thus reducing to an absolute minimum all defects that might appear in the 16mm. master.

A visit to the Hollywood Colorfilm laboratory in Burbank, which is now actively in production with 16mm. and 35mm. Gasparcolor, revealed the process technique of Gasparcolor and proved to be absorbingly interesting as well as instructive, and a revelation in discovery of a color process that was well known in Europe before the war, but comparatively new to the United States.

All the precision equipment at this laboratory is the finest precision motion picture machinery that mechanical skill can produce, and carries the well-known name of "Duplex."

Tests, temperature, and control of developing solutions is by pH control. Bleaching baths are checked by colorimeter. Gamma-strips are run frequently and checked by an electronic densitometer. The control of printing-lights is by electronic voltage regulators using direct current. Light-tests are made on the visual sensitometer.

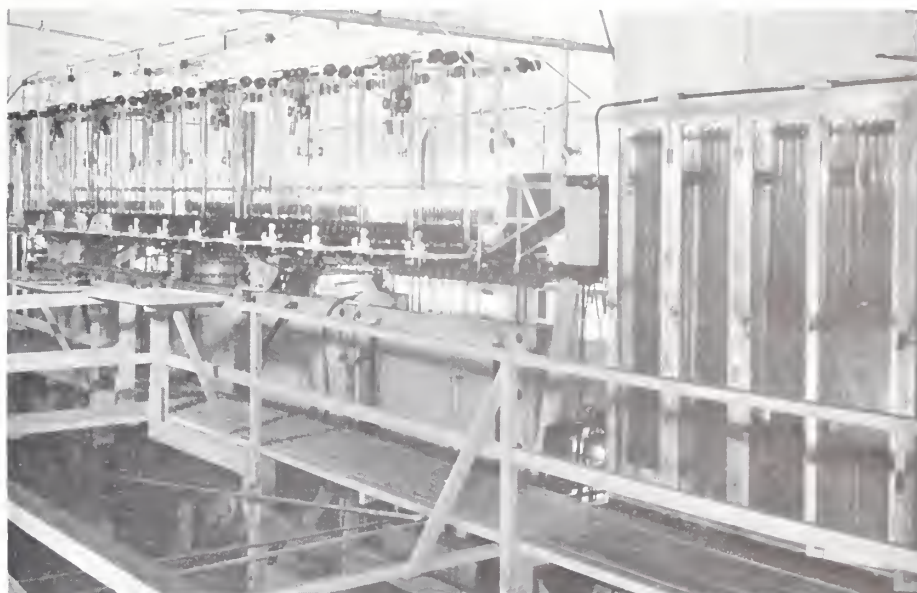
It was in the projection-room that the amazing beauty of Gasparcolor translations of the original subject were revealed.

From two synchronized 16mm. projectors, placed four feet apart, an original subject photographed on 16mm. Kodachrome stock was projected from one machine, while the same subject, duplicated on Gasparcolor stock, was projected from the other.

The subject was a musical short. Colorful costumes, settings and beautiful girls. It was very well done. The photographic technique was smooth, evenly balanced and beautifully lighted. Smooth cutting from long- and medium-shots to close-ups, properly timed wipes, fades and dissolves. For a short subject in color it was a delightfully entertaining success.

The Gasparcolor reproduction was true in every detail, the exception was in favor of Gasparcolor's brilliance, projected with lamps of the same voltage; both projection machines were identical.

This demonstration was followed by one of the same subject reproduced with the Gasparcolor two-color process. This revealed a surprisingly fine skin texture and better definition of half-tones than has been seen in other two-color processes. The quality was brilliant, smooth and sharp. The two-color version of Gasparcolor represents really more than the cutting of the spectrum into



Developing-machine for Gasparcolor film in the laboratory of the Hollywood Color Film Co. It will be noticed that this is essentially a standard developing-machine, as neither flotation nor imbibition are employed in this process, which uses special, reversal-type colorfilm.

equal halves. There is a definite, controllable, and reproducible dichroic effect, rendering good facial skin-color with red lips, and surprising separation of green and blue, affording definitely beautiful results that can be used to increase the value of the subject-matter suited to two-color photography, and of course at less expense than the three-color reproduction.

The black-and-white reproduction from the original color was superior to any attempt of black-and-white exposure through a system of filters attached to the camera lens. There was a roundness, and depth of focus, apparent only in good color rendition.

The next demonstration was a projection of the same subject enlarged to 35mm. in three-color Gasparcolor. The result was amazing. The color, sharpness, and sound had lost none of the excellent quality of the original. There was a difference, but again it seemed to be in favor of Gasparcolor. The color-balance, obtained through control in making the separations, was perfect. Shadow-detail was brighter and more luminous. Skin-texture was smooth and delightful, and the highlights were a soft and delicate balance for the lower key of lighting.

The reduction process from 35mm. to 16mm. of black-and-white from color, or black-and-white direct, and from 35mm. to 16mm. and from three-color to two-color, or three-color was entirely successful, producing a 16mm. product of excellent quality without impairing the fine range and tones of the 35mm. sound and picture. The production possibilities of any producing unit seem to be unlimited through this channel of Gasparcolor.

To the commercial advertiser, who needs a number of prints of a 16mm. business film, there is the unquestionable advantage of being able to display his product in its true tempting colors. The wrapping of merchandise, or the

merchandise itself, may be shown as it would appear on the shelf.

Documentary films would be enhanced by the added documentation of color, and the lasting quality of the dyes used in the positive film will make for prints of permanent record.

For visual Education, many scenes in black-and-white become just so many pictures, but when the object of the lesson is presented in true color it is remembered. The training for various vocations, and especially today, military training in all its phases would be simplified, and the subject of the film would be better retained mentally if instructional films were presented in color.

In enlargements from 16mm. Kodachrome the result is not limited to a lighter, or darker, product than the original, because the application of the method of correction in Gasparcolor is so pliable that variations of shade are controllable. There is no indication of the unpleasant contrast which often results in the usual 16-to-35 enlargement.

Thus it may be concluded that in the Gasparcolor process, the industry has gained a needed, and potentially very valuable method of producing color films for virtually every purpose for which either 35mm. or 16mm. motion pictures are used. Most significant, too, is the fact that this process is the first commercially-available color system to offer the possibility of processing color in existing black-and-white laboratories. Sooner or later, so all authorities agree, the motion picture industry will swing to an almost 100% color basis: and when that happens, it seems scarcely possible that any single laboratory or group of specialized color-film laboratories could successfully handle the huge volume of footage necessary to handle the entire industry's output. But if the industry's present black-and-white laboratories, with only minor modifications, could, as in the Gasparcolor process, handle color, the universal acceptance of color would certainly come about much sooner. END.

Proving The New Norwood Exposure Meter On Production

By WILLIAM STULL, A.S.C.

THE introduction, some two months ago, of the radically different new Norwood "Director" three-dimensional exposure-meter for professional cinematography has been termed by some experts the first basic advance in the meter field since the advent of the first photocell types nearly a decade ago. While this may perhaps be a somewhat over optimistic viewpoint, it is certainly true that this new instrument, not only because of its radically novel operating principle, but because it is the first exposure-meter designed solely for the use of the professional cinematographer, is one of the major cinetechanical developments of the year.

However, the truest evaluation of any new device or material is not the one made in the first excitement of its initial bow, but the one made after it has been put to the proof of practical use on actual studio production. The Norwood meter has now reached that stage: a majority of the cinematographers at the studio where it was first shown (Metro-Goldwyn-Mayer) have been using these instruments for some time on actual production. Furthermore, tests of the meter in other studios have led to the decision on the part of one major studio to adopt the meter throughout, and it has also been put to successful use in that most exacting of all cinematographic fields—the production of short-schedule, short-budget "quickies." Therefore from the reactions of some of the men who have tested and proven the new instrument, we can gain an accurate measure of its practical value.

The Norwood meter in its basic design follows the systems which actual practice throughout the industry has proven the most practical for studio use: it is built for incident-light readings, rather than measuring reflected light. While the reflected-light system has, because of its simplicity, been adopted as the general standard for amateur use, it admits variables—such as varying patterns of reflectance-values in the scene being scanned—which limit its convenience and accuracy as a professional tool. Similarly, the use of a conventional type of meter for taking incident-light readings under modern studio conditions also admits of some errors in that the flat surface of the meter's pick-up cell does not always give a proper evaluation of the angular characteristics of the light being read. For example, distance and unit intensity being equal, conventional readings of front and cross lightings will be the same, since in each case the ordinary meter would be directed at the light: yet in practice, increased ex-

posure is needed to produce a normal result with the cross-lighting.

The Norwood meter compensates for angularity in lighting by means of a translucent, hemispherical dome of ground celluloid placed over the photocell. This three-dimensional pick-up closely approximates the three-dimensional character of the average subject. The photocell, measuring the light transmitted by this hemispherical collector, can therefore give a reading in terms of photographically useful light actually affecting the subject. In addition, each individual meter is precision-calibrated to coordinate with the film and processing standards its actual owner will encounter in the course of his work.

Second only to Karl Freund, A.S.C., who collaborated with Norwood in refining Norwood's "prevailing illumination" meter system for practical studio use, Ray June, A.S.C., has probably made the most extensive production use of the new instrument. He says, "I have used the new 'Director' meter throughout my latest picture—and as that picture was made with W. S. Van Dyke, who is probably the industry's fastest-shooting top-flight director, that means that the meter was put through some extremely rigorous tests of its production utility, as well as of its strictly technical accuracy. The results convinced me that the new device is a genuinely worthwhile accessory for studio camerawork.

"There's one thing that ought to be very thoroughly understood, though. It seems that every time a new device of this sort is brought out, some people mistakenly jump to conclusions and expect the gadget to do more than it possibly can. In this case, just because the Norwood meter will give you a scientifically accurate reading of the overall exposure-value of *all* of the lighting on a player, rather than a simple measurement of key-light, don't expect it to tell you whether your lighting is in balance or not. It won't do that; for that matter, I don't think any meter will ever be made which can do it! I hardly think any of us—even the least camera-conscious of studio executives—would want a device that would, for that would eliminate the individualized artistry which makes cinematographers creative artists rather than mere skilled technicians.

"But this meter, properly used, *will* take over the full responsibility for maintaining your exposure-levels on an even keel throughout, and give you a chance to make fuller use of your individual methods of light-balancing

which, after all, is your main job. But if the meter is to do that, the man who uses it has to trust it; there can be no moments of thinking, 'well, the meter may be wrong, so I'll add a little here or come down a bit there, even if the meter says it's all right now.' If you do that, you might just as well not have a meter at all, for you're certainly not using it. And my experience has been that the Norwood meter is so dependable that you can follow its guidance implicitly, even at times when the meter-reading disagrees with your own judgment.

"There's nothing sensational about my method of using the meter; I simply follow the suggestions laid down by the manufacturers. I balance my lighting on set and people visually, in the usual way. When my lighting is completed, I take my meter-reading at the key position (or positions) of the principal player, pointing the hemisphere of the meter directly at the camera. Since the meter reads directly in *f*-stops, all I usually have to do then is set the lens-aperture at the stop indicated by the meter, and shoot. If the lighting of the scene isn't in balance, that's my fault: but the exposure-level of the scene will be perfect.

"The fact that the meter reads directly in *f*-stops, rather than in foot-candles or candles per square foot or any other non-photographic terms proved especially valuable in this picture. We had to work unusually fast for a major-studio production: director Van Dyke is always a speedy shooter, and on this one our schedule was rather short, so we had to average some thirty to thirty-five set-ups per day. And Van Dyke's technique calls for a lot of camera-movement, and few, if any, 'protection-shots,' since he virtually cuts his pictures with the camera.

"Accordingly, to provide a better margin of photographic safety in making these dolly-shots, we photographed nearly all of the picture (except, of course, extreme close-ups) at comparatively reduced apertures—around *f*:3 and smaller—to gain added depth of field. So it was very handy to be able to get our meter-readings directly in *f*-stops by simply holding the meter in its place and seeing that the reading on its dial was *f*:3.2 or whatever stop we had decided was necessary.

"Where there are rather large sets, I've found this meter very helpful in checking the contrasted lighting of the various planes of the set, so that this balance always remains constant. For example, I know I want the background at a certain level, the middle distance at a different level, and the foreground, where the players work, at yet another level. The first time, I balance the lighting by eye. Then I check each important plane—each key position of the actors, for that matter, if they're to move around much—and make a note of it. Then on every succeeding shot I know I can get my basic lighting roughed in quickly if I just place the meter against

the backing, and adjust the illumination there to the predetermined reading—say $f:2.6$ —then place the meter in the contrasted middleground and get my desired reading there—say $f:1.4$ —and finally bring the foreground lighting to the value I know will balance—say $f:2.8$. It's a really worthwhile time-saver, and makes for more consistent results.

"In the same way, it sometimes happens with the best of us that we may feel our lighting sliding out of balance. Sometimes it really is; sometimes it's only a visual illusion because our eyes or minds are tired. But the meter provides an excellent check for that. I know just what ratio I want between highlights and shadows to produce a normal lighting-balance on my principals: well, if I feel my visual balancing isn't quite accurate, I check it by meter. First I take the usual overall reading, to make sure the overall level is right. Then I can kill the key-light, and take a separate measurement on the filler light; after that I can take a similar measurement on key-light, back-light, and so on. If these individual readings aren't normal, I can easily correct whichever element the meter indicates is above or below its proper level for my normal balance. Then I can either readjust the whole lighting up or down the scale to make sure my overall level is at the desired normal, or I can simply readjust my lens aperture to match the meter's indication: in either event, the negative-exposure will be normal—and so will the lighting-balance. If you've ever tried to light a scene when you weren't quite sure whether or not your eyes and nerves were playing tricks with your judgement, you'll realize what a comfort this sort of assurance is!"

At the Paramount Studio, Camera Chief C. Roy Hunter has decided to standardize on the Norwood meter throughout the studio, supplying a meter to each production unit as a basic part of the photographic outfit. "A modern, fully professional type of meter," he says, "is today almost as essential a part of a cinematographer's photographic outfit as the camera or tripod. There was a time, not so many years ago, when each cinematographer provided his own camera; today, we recognize that it is the studio's responsibility to provide the camera and all necessary accessories. The modern exposure-meter is certainly one of those necessary accessories, so of course Paramount is supplying them to its directors of photography."

"Our choice of the Norwood 'Director' meter climaxed a search, extending over several years, for a meter which in our estimation would completely meet the specialized requirements of studio directors of photography. By every practical and theoretical test to which we could subject it, the meter proved itself so completely what we were looking for that we have had no hesitation at all in going forward with our plans for equipping all of our staff with these instruments."

"The first meter is already in success-



Talking it over, Paramount's Camera-Chief C. Roy Hunter (left) and director of photography Theodor Sparkuhl discuss the first of the new Norwood meters to be used on production by the Paramount Studio.

ful use on actual production, in the hands of Theodor Sparkuhl, A.S.C., who is directing the photography of 'Dr. Broadway.' Two other meters have already been delivered, and the rest will be delivered as soon as we have completed some detail tests with the present instruments to determine the precise calibration scale which will perfectly match the meters to our laboratory requirements.

"Sparkuhl's production has not as yet been shooting long enough to give us a big enough backlog of experience so either of us would feel justified in commenting on the exact methods of using the meter. But we can already say that the results have more than justified the confidence we have placed in the instrument. The picture is a melodrama—full of tricky effect-lightings—and even in the first few days of shooting the uniformity of Sparkuhl's negative has been extremely gratifying."

"For many years there has been a controversy within the industry as to whether time-and-temperature negative processing or use of the test system was best. If for any reason at all there are likely to be irregularities in negative exposure, without doubt the test system can be a great life-saver. But if the cinematographer has a means of insuring that his negative exposure-level remains mechanically uniform, the corresponding uniformity of time-and-temperature processing is obviously more efficient. We believe that this new meter will give our cinematographers an accurate means of keeping their exposure-values uniform, while at the same time leaving them even more free than before to control their lighting-balance to suit each individual taste. And, granting of course, as you must in any major studio

today, that you start with a group of directors of photography who really know how to balance lighting, there is a very great advantage in any system which will leave them free to control the effects they get from the set, so sure that their negative will receive technically normal exposure that neither they nor the men in the laboratory have to give even a thought to modifying (and perhaps ruining) those effects by trying to force or to save the negative in development."

"There is an additional advantage to our policy of having the studio supply these meters. This way, we can standardize on a single type of meter, instead of the heterogeneous assortment of different types inevitable when each individual buys his own. And we can standardize the checking and maintenance of the meters. This, coupled with the extreme precision used in manufacturing and calibrating these meters, should give the men who use them more implicit confidence in them—and accordingly, they should use them to much better effect. If you can be absolutely sure that when your meter says $f:2.8$ it really means $f:2.8$ and not $f:2.6$ or $f:2.9$, you are much more likely to follow the meter's reading than would be the case if you had any possibility of doubting it."

But perhaps the most searching test of all that the Norwood meter has yet undergone was that recently provided by Jack Greenhalgh, A.S.C., who after familiarizing himself with the meter in the Photo Research Corporation's experimental studio, used it while photographing an extreme short-schedule feature for the Producers' Releasing Corp. "That picture," says Greenhalgh, "really

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Corrective Make-Up Can Help The Cinematographer

By JACK DAWN

Head of Make-Up Dept.,
Metro-Goldwyn-Mayer Studio

SINCE the idea of "corrective" make-up was introduced some years ago, it has been the focal point of frequent controversies between cinematographers and make-up artists. Most of this disagreement, I am sure, has been caused because not only cinematographers, but also some make-up men, have not had a clear understanding of what corrective make-up is, what it is intended to do, and how it should be applied. The result of such misunderstanding, if it is the cinematographer who does not understand, is likely to be that he refuses to photograph something which could actually help him; if it is the make-up artist who does not understand, the cinematographer is likely to be faced with a caricature of a corrective make-up which is actually worse than none at all. Therefore I feel that a clear discussion of the means and aims of corrective make-up should be of benefit to all concerned.

When a cinematographer photographs a player, he literally paints a picture on his emulsion, using light and shade as his brush. He has two main objectives: first, to suggest an illusion of three-dimensional roundness on the actually flat, two-dimensional screen. Second, to enhance the good points of the player's appearance, and conceal the unfavorable ones.

In both instances, his tools are light and shade. To conceal an undesired protruding area, such as, for instance, a chin that is beginning to sag, he tries to keep that area in shadow. To eradicate wrinkles, he throws additional soft, very flat light into them to light up the concavities.

In applying a "corrective" make-up, the make-up artist uses essentially the same means. Only instead of actual light and shadow, he uses lighter or darker applications of make-up to produce essentially the same result. In the case of the sagging chin, he throws it, photographically, in the shadow by applying a slightly darker shade of make-up to that area. In the case of wrinkles, he produces the effect of stronger, flatter lighting by applying a lighter shade of make-up to that area, so that even

though the wrinkle, being in a physical depression, receives less light than the surrounding area of the face, it will, because of its lighter tone, reflect comparatively more light, bringing its photographic value into closer parity with the rest of the face.

If the corrective make-up is properly applied, it can be a really worthwhile help to the cinematographer's efforts at "corrective" lighting, for a well-applied corrective make-up should have much the same corrective effect regardless of the angle at which it is viewed or photographed, whereas the "corrective" lighting changes its effect in varying degrees as the actor moves about. Used together intelligently, these two systems of correction should supplement each other perfectly, just as the still-photographer's lighting and the subsequent retouching done on his portrait negatives supplement each other. Corrective make-up is essentially a matter of skillfully retouching the subject before, rather than after the exposure is made.

But to do its work, the corrective make-up must be applied skillfully, and with a real understanding of what the make-up artist and cinematographer are trying to accomplish. As a make-up artist myself, I must admit I am embarrassed by some of the caricatures which result when an unskilled make-up man tries to use this technique and does it crudely.

Perhaps the most common fault is permitting the shadowing or the highlighting to spread over adjoining areas where it is not needed. This often happens when the make-up man, after applying his corrective coloring, attempts to blend it in with the adjoining areas by stippling, patting or even rubbing the make-up. This may blend the two adjacent shades: but it also spreads the corrective coloring so broadly that all its effect is lost.

As an example of this, take an ordinary facial wrinkle. If you look at it closely, you will see that it is virtually a little canyon in the skin, fairly deep and usually quite narrow. Speaking photographically, the reason the camera sees it as a canyon is because the higher

areas on both sides of the wrinkle reflect a great deal of light, while the sides and bottom of the canyon, being in the shadow, reflect much less light. If we throw a strong, flat light straight into the canyon, we light up these ordinarily shadowed areas, and as both the wrinkle and the adjacent areas reflect substantially the same amounts of light into the lens, the wrinkle is apparently erased.

A good corrective make-up does the same thing. Only, instead of using light itself, a lighter, more reflective shade of make-up is applied to the bottom and side-walls of the little canyon, so that their reflectivity is brought to a level close to that of the adjacent flat skin-areas.

But if the make-up man tries to blur the highlighting into the tone of the rest of the face, or applies it too broadly, what happens? The highlighting, instead of being confined to the depressed areas, where it is beneficial, is spread to a greater or lesser extent over the adjoining areas, where it is emphatically not needed. As a result, we are brought back to our original starting-point again: the wrinkle and its surrounding skin-area have the same reflective value, and the wrinkle, being physically recessed, receives and reflects proportionately less light to the lens than does the surrounding flat area, so it still photographs as a wrinkle. In fact, we're probably worse off than we were at the start, for we've produced a blurred streak of lighter tone than the surrounding make-up, somewhat wider and longer than the original blemish we sought to correct. No wonder the director of photography takes one look at the result and declares loudly that he can't and won't photograph such a streaky caricature or a make-up!

The same thing naturally can and does occur when we use shadowing to tone down a protruding area. The darker-toned make-up must be placed with precision, on exactly the areas that we want to subordinate, *and nowhere else*. Otherwise we'll again reach the same result—a blob of darker make-up which not only does *not* correct the fault it is intended to remedy, but which photographs as an obvious dark spot or streak.

To do a really correcting job of corrective make-up, the make-up artist must be exactly that—an artist, working with a good working understanding not only of make-up, but of photography, lighting, drawing and sculpture. Above all, he must apply it with the greatest of precision, in fine strokes, rather than broad, careless ones. If this is done, corrective make-up can very quickly prove its worth as a very positive help to good cinematography.

The same technique can be applied to color make-up, whether for Technicolor, Kodachrome, or any other process. Its value in color is ever greater, for here we have not only light, shade and form,

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MOVIE

BARNSTORMERS

By H. WILLIAM MOORE



"HOW many feet have we gotta shoot tomorrow?" I mutter to the director, Bob Mann. It's three A.M. and we've tossed out the anchor for the day and have retired to the three-story frame hotel that hangs over the main line of the Pennsylvania railway. This town happens to be wedged in the Allegheny mountains; the name makes little difference for it could easily be any hamlet where a community motion picture is being exposed to the surrounding terra. The director yawns and gropes for his clip-board with tomorrow's shooting schedule.

"Let's see . . . two hundred . . . three-fifty . . . five . . . six . . . seven hundred feet," he yawns again, then throws the clipboard back to the night. I groan and stretch out on the grimy rug and try to recall what series of circumstances ever shoved me behind a 16mm. motion picture camera and into the heart of "No Man's Land"—a section of livelihood between the amateur and professional ranks

. . . . I remember something about an advertisement that expressed dire need for cameramen and directors . . . I answered and my contract read "Director-Cameraman." I felt pretty good . . . then a nightmare of productions followed, each averaging from two to three thousand feet in length; all in Kodachrome and recorded on the emulsion strip with Bell & Howell 70-E cameras. One camera was capable of a dissolve; the others you had to cut and fade and cut and fade and cut and fade . . . Yet, professional results had to be obtained, believe it or not. The picture is sponsored by the Chamber of Commerce or some other leading civic organization and they're right proud of their village, regardless of what I might think of it. All the scenic points must be glorified and not "goryfied"; the merchants that have kicked in a thousand dollars to produce the epic have a right

A few years ago we used to hear many a romantic tale about "barnstorming" aviators—those hardy souls who went from hamlet to hamlet with a rickety airplane of World War I vintage, held together with prayers and baling-wire and flown, as a rule with an angel under each wing and Lady Luck holding up the tail, giving the local citizenry their first taste of flying. We here in Hollywood seldom realize that there are the counterparts of these "barnstormers" on the fringes of the cinema profession, too. One of them here tells his story, which forms, we think, a very interesting contrast with the established procedure of Hollywood's "big business" film industry. THE EDITOR.

to expect their commercials to be "on the nose" in focus and exposure. Although at times when they expect a second "Gone With the Wind" I ponder the question if street-cleaning might not be a good profession after all

Bob looks down on me through his fourth-production-day beard.

"We'd better turn in if we expect to throw those seven hundred feet in the can tomorrow. That means on the set at eight and working through until midnight or later, you know," he says encouragingly.

"Yeah, I know—all too well," I return. But something was boiling in the noodle. "Bob," I said. "Did you ever stop to think who has the harder job. We, in our field, or the directors and cinematographers in Hollywood?"

"That's easy," he grunted. "We have it plenty tougher."

"And your proof for the jury?" I prodded.

"All right," he returns, warming to the bait. "I'll tell you step by step what we have to accomplish and overcome, then you be the judge." Bob slides from the chair and angles over to the bed and sinks down.

"(As if I didn't know," I mumbled to myself.)

Bob shot an orb at me but it missed. "Take it from the first," he began. "The first problem and the director's baby-by-adoption is to put the sponsoring organization right as to what we can and what we can't get on interiors"

"Then when the cameraman gets in," I interrupt, "we have to tell the merchant exactly what he can get for his money and correct the over-zealous impressions spread about by directors in order to sell their commercial footage."

"Now wait . . ." he growled. "Who's telling this story?" And I shut up and listen to a story that is too old to my ears.

". . . . many times," Bob continues, "the sponsor has the impression that we

are shooting in sound, our camera is a Mitchell, lights cover everything from carbon arcs to dinkies, and the production crew is complete from script girl to 'In Charge of Production.'" Bob stopped and broke into a puddle of laughter.

"Let me in on it," I said.

"I was just thinking of the incident in Elkhart when the committee was waiting for the camera unit and one man finally rolls in with his model T coupe and with equipment bulging from sides and radiator cap," Bob said, and laughed heartily again.

"Sounds crazy—but oh so true," I added, then thoughtfully for a change, "I usually forget the big job you directors have to tuck away before we cameramen get in. Appease your committee and put 'em straight on the fact we have B & H cameras; two lenses, one a Taylor-Hobson 25mm. universal focus $f:2.7$, and the other a wide angle 15mm. $f:2.8$ in focusing mount used mostly for interiors. Then our two hundred feet of heavy cable that we run to the main fuse and switchbox; three boxes of portafloods that break up and give us a spread of six floods, each with three No. 2 photofloods. We have some trick battery clamps that dog on to the main line and usually ahead of the fuses—if we can gain permission to do so from the power company involved."

"I usually don't tell 'em all that," Bob cut in. "I figure by the time I sell a thousand dollars worth of commercial film footage that represents thirty-five or so leading merchants and factories in the town, select the stars of the picture and supporting cast—always keeping in mind the person must be chosen for 'box office' appeal more than looks and acting accomplishments—handle all publicity, movie-queen contests, advance ticket sales, notify every merchant of the hour we will be in to shoot his place, and try and convince the cast they must

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Dramatize the unsung heroes—and heroines—behind the product. (Photo courtesy General Electric.)

Putting "Interest-Value" Into Business-Film Scripts

By W. G. CAMPBELL BOSCO

IN many ways the 16mm. business-film technician has outstripped his partner, the business-movie "ideaman" and script-writer. From the strictly technical viewpoint of cinematography and sound, the better-class 16mm. business film can stand successfully on its merits in any comparison with 35mm. monochrome or color filmed for the same purpose. From the economic viewpoint 16mm. is, dollar for dollar, naturally far in the lead. But unfortunately far too many commercial pictures turn out lacking in "interest-value."

This is particularly true of those films aimed at the general public, and having as their purpose the influencing of that public's opinion favorably towards the product or service of the sponsor, but which fail in the largest sense because the presentation, lacking in imagination, fails to capture or hold the interest of the audience. Much of this lack of "interest-value" can be traced to an inadequate script; inadequate in that it is ill-adapted or awkward for use in a commercial picture, or that the scripter has failed to bring out the really interesting facts about the sponsor's business. The result, all too often, is the familiar "dry-as-dust" commercial movie. Yet it is a fact that there are very few industries and businesses today which do not contain somewhere within themselves the germ of an interesting audience-picture.

The motion picture that is sponsored

by business, for business and about business should certainly not try to imitate the theatrical product; particularly, it should not over-reach itself in an effort to be entertaining in the sense of aping theatrical films. Rather, it should have a form completely its own. It will then be able to stand comparison, in the mind of the audience, with the theatrical product.

And that comparison is inevitable. Subconsciously, at least, the average audience will make comparisons, and if it sees in a commercial film a scene which has obviously "dramatic" intent but which lacks the quality and punch customarily seen in theatrical movies, the whole picture and everything associated with it (including the sponsor and his product!) suffers to some extent by the comparison.

It does not matter that that scene or picture may be, in view of their budget and production conditions, masterpieces of business-film making. The audience doesn't know or care that the facilities available to the theatrical producer aren't available to his less affluent business-film brother. It seldom differentiates between 16mm. and 35mm. Movies are movies to the average audience: they can't see behind the screen to the enormously differing conditions under which a theatrical and a non-theatrical film may be made.

The function of the commercial movie is, broadly speaking, to explain the

"how" and "why" of something, and in so doing to stimulate an interest in, if not a desire for, the product or service of the sponsor. It should lift that product or service out of the ordinary by showing and telling what goes on behind the scenes to bring that product into being.

Nine times out of ten there is a very much more interesting story behind any business enterprise than the trite, hackneyed "stories" that are conventionally used to wrap up celluloid sales plugs. The secret of successful business-film scripting is to ferret out that really interesting story, and get it somehow on the screen.

How this is to be done varies with each picture. Sometimes a commercial script-writer will be well advised to prepare a very detailed shooting script, specifically indicating every shot, set-up and camera-angle. At other times, blessed with an imaginative production crew, he can confine himself to a comparatively brief outline, knowing that the shooting staff will be alertly able to fill in the vacant spaces between his hints.

Certain points of theatrical film technique can very well be applied to this problem. Many makers of travel-films, for example, have stressed the value of first impressions when filming some distant and unusual location. They have mentioned that if they can immediately film the sights which are new and unusual to their eyes during the first few days spent in that region, they're likely to come back with a really interesting picture, while if they allow themselves to wait too long before shooting, these same sights become so much a matter of course that they're often forgotten when shooting does start—much to the detriment of the final film's "audience-interest."

The same thought should guide the business-film scripter. In every factory or business there are features which, at first sight, will be novel, which make the visitor ask "what?" "how?" or "why?" If they interest you, they're equally likely to interest the audience. Make sure you get them on film, even if they may seem routinely uninteresting to the sponsor's representatives, who are necessarily more accustomed to them.

Too many factory sequences are dull and photographically uninteresting on the business-film screen. They don't have to be. Perhaps they are dull because they are filmed and narrated according to plans conceived by plant executives who are so familiar with factories in general that they don't see the things that are novel to the layman, but instead find interest in highly technical details the average layman doesn't understand. The business-film scripter, and to an almost equal extent, the camera crew, should consider themselves as representatives of the audience. Things which, there in the factory, make them ask questions, should certainly be put on

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BLUE WINDOWS

By RUSSELL METTY, A.S.C.

WHAT d'you mean, Blue Windows?" piped a skeptical voice. "Exactly, just that! Windows that reveal a very faint trace of blue and act as a filter," I replied.

This new technique is being applied to the effects in the R.K.O. production of "Joan of Paris," directed by Robert Stevenson. It is the first American production to introduce Michele Morgan, brought from Paris by R.K.O.-Radio Pictures.

When I was handed a copy of the script, I found a scene that called for a set-up in the lobby of a hotel, showing Michele Morgan talking to a Gestapo agent. As she turns and looks through the window she sees her lover, Paul Henried, crossing the sunlit square.

Wondering if I had mis-read it, I read the scene a second time. No, I hadn't mis-read it. There it was and it read with the same understanding. There must be a mistake, I thought. I barged into Mr. Stevenson's office to call his attention to it and ask him if that was the way he intended it to be.

"You've guessed it right," he answered.

"But," I said, "that's shooting from inside out, and there's no magenta gelatin sheets big enough to cover those windows without showing patches."

"Sorry," said Director Stevenson, "but that's the scene I want, just like it reads. Sharp outside, sharp inside. It's your headache. It can be done!"

"All right," I said, "I know it's my headache, and—I'll find out HOW it can be done!"

Days and nights, my headache grew into aching proportions: Spectral research, volumes of it.

"It can be done! It can be done!!"

Those words kept ringing louder as the days and nights wore on. Finally, they ding-donged into my thinking: Blue! Blue!! Blue!!! Maybe that'll do it!

I hastened over to R.K.O.'s Art Department and cornered Albert D'Agostino, the big chief of the department, and his assistant, Carroll Clark, and asked them to read the scene that by this time was commencing to wrap its tentacles around me in a strangle grip.

D'Agostino, looked up from his reading and asked, "Well what do you want me to do about it?"

"I want you to put blue optical glass in those windows," I answered.

With a roar, both D'Agostino, and

Holt Lindsley (left) and Art-director D'Agostino inspect a pane of glass treated with the new coloring.



Clark jumped out of their chairs. D'Agostino almost shouted. "Say, listen. Do you know what you're talking about; do you know that that kind of glass in sheets big enough to fit those windows would cost a lot of money, and have you any idea where it could be found, and how long it would take to get it? And if it could be found and we put it in those windows, what are you going to do when you go outside and try to shoot in on the reverse-shot? Nothing doing; we'd waste too much time changing the windows back to clear glass. Don't be silly. Find some other way to solve your problem. It's yours, isn't it? Find another way! It can be done!"

Ouch! Those ding-dong words again. They were getting me down. I went out of his office. I was wandering around the lot when I looked up and found myself passing the paint department; another idea dinged into my brain. I hustled into the paint shop looking for Holt Lindsley, who has charge of that department. I found him in his office. He looked up as I entered, but before he spoke he pulled up a chair. "Sit down," he said, "you look pale. Are you sick?"

"No I'm not," I answered. "But I will be if you don't help me out. Tell me," I whispered, "Can you make a lamp-dye with a faint trace of blue in it, maybe a little red too, that can be sprayed evenly on the windows of the hotel lobby in 'Joan of Paris'?"

"It'll have to be a thin dye, deep enough in color to balance the exposure for the scene in the hotel lobby with the scene outside in the sun."

Lindsley, sat still for several minutes, thinking, and then said. "Sure! It can be done!"

"Cut out that 'It can be done' stuff," I yelled: "It's getting me down!"

"All right, all right!" said Lindsley, calm and cool. "Shall we make a test?"

"Sure," I replied, "a lot of 'em. Come

on over to D'Agostino's office, let's talk to him."

The result was that we all got busy together. We were agreed that to get a sharp scene, both inside, and out, through the windows, a system of filtering would have to be devised that would not interfere with the characters and objects in the lobby, as obviously they would require the exposure of a rather open aperture, while the characters and objects in the sunlight of the exterior must balance with the exposure for the scene in the lobby, using the windows for the filtering agent in such a manner that it would not interfere with the shooting of the reverse-shot, through the windows, from the sidewalk into the lobby.

After many tests and experiments with different colors and densities of lamp-dyes mixed in lacquer thinners, Lindsley succeeded in compounding a mixture that applied quickly and flowed evenly on the glass.

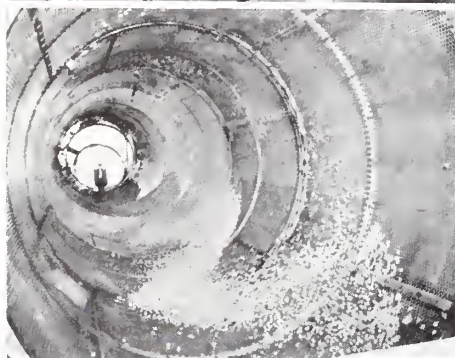
The mixture was put into a Hudson hand-pump from which the nozzle had been removed, permitting the mixture to be applied to the glass by working the pipe on the pump in a horizontal line across the window, beginning at the top and gradually working to the bottom. A tin trough was placed at the bottom of the window to catch the overflow.

Up to this time we had made our tests with 4x5 stills. Now we set up lights and put characters in the scene for a final test. The result was perfect,—to us.

We called Director Stevenson to the projection room. Quietly, he watched several hundred feet of the scene as it slid across the screen; then the lights came on. He looked at us with a broad smile and said, "Boys, that's it,—exactly what I want. Comfortable for the actors, comfortable for everybody, and quick. You see, I told you Russell, 'It can be done!'" **END.**

Kodachrome Glamorizes The Lowly Pea

By MARVIN M. BLACK



Top: Palmer and Butler shooting a scene in the studio; second: a tricky lighting-problem inside a huge pea-grader; third: comedy in the kitchen; bottom: Kodachroming a dialog scene for "Pick of the Pod."

IT'S a comparatively easy task for Hollywood technicians, with plenty of film beauties available, to produce a "glamor" picture. But just let them try to put glamor and "oomph" into such a prosaic product as a can of English peas, and they've really got an assignment! This was the tough job tackled recently by William Palmer and Dave Butler, 16mm. sound-on-film experts of San Francisco, whose stock in trade is "glamorizing" common, everyday commercial products. They've just completed an interesting 16mm. film, "Pick of the Pod," for the California Packing Corporation, makers of Del Monte products, complete with special effects and professional trimmings usually found in 35mm. jobs.

"Pick of the Pod," an 800-foot, 2-reel Kodachrome film, was made primarily for dealers and salesmen of Del Monte goods, but the treatment is so good that it's worth seeing for entertainment as well. In behind-the-scenes flash-backs, the camera takes the audience to the fields where peas grow; shots from an airplane reveal the layout of a modern packing plant; back to earth again, the camera visits a large cannery, and there follows the various processes of shelling, sorting, and grading, to the final packing for shipment to the dinner-table.

There are a number of features about this film which make it of especial interest to the cinematographer: in the first place, more than usual care had to be taken with color reproduction. For "Cal Pack," the sponsors, were not concerned merely with having generally beautiful color effects. What they wanted and demanded was faithful reproduction of the very type of green peas that go into Del Monte cans. Palmer and Butler secured their best results by making dupes on an optical printer. Such special-effects as lap dissolves and wipes were put in as each print was made, to maintain the most faithful color reproduction. By maintaining the emulsion on the same side as the original film, they eliminated ground noise and scratching by having the sound-track in constant focus.

At the same time, minor differences in the quality of light available made the use of filters necessary for accurate color-correction. Ordinarily, they might have used such compensating filters as the Harrison Color-meter set, or the Eastman one used with the Wratten Color-temperature meter, but because of the peculiar conditions under which they worked, Palmer and Butler devised

a special arrangement. These filters arrived at by a trial-and-error process, were especially designed to offset the leaning toward the magenta side, in favor of the green they wished to reproduce. Their most effective application was upon the camera itself.

In shooting "Pick of the Pod," Palmer and Butler drew upon the professional techniques common to the more ambitious 35mm. productions, but oft-times shooting under conditions that would send the average 35mm. "production" cinematographer stark, raving crazy. Ordinary outdoor location shots were easy enough, but photographing such a product as English peas, at different times of day, under varying conditions of light and yet maintaining perfect color-values, was anything else but a run-of-the-mill task!

It was practically impossible to have any cut-and-dried shooting schedule—English peas are somewhat temperamental and don't always mature when they're supposed to. Shots were made early in the morning, many at night, and at times, under the most trying atmospheric conditions.

The greatest difficulty was in working against time. To shoot the particular type of pea which the canning company wanted, they had to wait until the harvesting began, then work like demons to get through before the peas matured too far. For a whole week, they literally lived in the field, all day, and all night in the plant, on duty 24 hours on a stretch.

In shooting the interior of the plant, their worries increased. Various problems of perspective, light, background, etc. had to be solved on the spot. Unlike production on a Hollywood movie set, they could not decide beforehand the most advantageous spots to locate the camera, then adjust the lighting backdrops and scenery accordingly. They were handicapped by a legion of pipes, machinery, and heavy equipment that had to stay put. To complicate matters, the walls of the canning-plant were consistently dark, while the floors were constantly wet.

Additional lighting was provided by a special hook-up from the 220-volt high power lines with a center tap choke. Cables were strung along overhead ventilating pipes, to keep them off the wet floor.

As a rule, the areas photographed within the plant were not large, most of the shots consisting of single units

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ONE of the real pleasures of visiting the 20th Century-Fox studio is the privilege of dropping in for a chat with Ernest Palmer, A.S.C., on the set. For Ernie Palmer has a very special way of greeting his on-the-set visitors; with no sense of affectation at all, he somehow manages to convey the impression that he is genuinely glad to see you—that your visit is in itself one of the pleasanter highlights of his day. No matter how busy he may be, or how important the action he is photographing, he finds time always to greet you with warm friendliness, and to see to it that you have a comfortable chair before turning back, if he must, to the business of putting the next scene superbly on the screen.

And he is busy. For many years one of the studio's top-ranking aces of black-and-white camerawork, today he has added to this accomplishment equal ranking as a camera-artist in color. He has probably been associated in the making of more Technicolor features than any other of the industry's "production" cinematographers. Among them have been such films as "Kentucky," "Hollywood Cavalcade," "Chad Hanna," "Belle Starr," and "Blood and Sand." Most recently, with the currently-released "Week-end in Havana" and his present production, "Song of the Islands," Palmer has become one of the first "production" cinematographers to solo-pilot a major-studio Technicolor production.

Palmer very obviously likes color. If you ask him why, he'll give you that deceptive slow smile of his, and confess, "I like to look at the rushes! There's



Aces of the Camera

XI:

ERNEST PALMER, A.S.C.

By WALTER BLANCHARD

something so much more satisfying—more complete—about a scene photographed in color than there is about the same scene photographed in cold black-and-white. And color is infinitely flattering, not only to the players but to the cinematographer as well, so that it is really fun, rather than an ordeal, to go into the projection-room to screen your rushes if they are in Technicolor.

"It is always a surprising thing to me to see how many stars who have not previously appeared in a Technicolor picture seem somehow to rather dread the ordeal of facing the color camera,

as if it were something that would mercilessly show up their un-photogenic points. Really, the exact opposite is true: Technicolor is the most completely flattering medium by which any star can be presented. The simple fact of the addition of color seems to do as much to enhance a player's appearance as the whole bag of monochrome camera-tricks. We had a clinching proof of this in two recent releases of our studio—"That Night in Rio," in Technicolor, and "Great American Broadcast" in black-and-white. Both of them were photographed by my friend Leon Shamroy,

A.S.C., and Alice Faye appeared in both productions. Viewed strictly as examples of photography, there could be little choice between the two productions; both were photographed by the same artist, and both were good. But there was no comparison between the way Miss Faye appeared on the screen in the two films. It is well known that during the last year she has not been in the best of health; well, in the black-and-white production she sometimes showed it, while in the color film she did not. The same thing has happened with other stars, in other studios, too, so we may conclude very definitely that the best prescription for any player who may feel that overwork or time are taking their toll would be to insist on being photographed by the flattering color-camera.

"The same thing works equally for the cinematographer, of course, for if in Technicolor he can make a player look better than she does in black-and-white, it is definitely to his advantage. Besides, it is, if anything, easier.

"I'm sure by now the old idea that color-photography is harder and slower than black-and-white has been pretty well exploded. I know that here at 20th Century-Fox, while of course they make some allowance for the added cost of

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THROUGH the EDITOR'S FINDER

A FEW evenings ago we had the privilege of attending a screening of some of the training films the industry, through the Academy Research Council, has been making for the U. S. Army. It was an experience we wish every one of our readers might duplicate, for in the course of that two-and-a-half-hour showing we saw many things that filled us with pride—pride in being an American, and pride, too, in being a part of an industry which could contribute so inspiringly and constructively to the National Defense.

Perhaps it's wandering rather far afield for a technical journal to comment on such things, but there were details—little, unnoticed incidentals and overtones—which were more eloquent of the real significance of the American Way of Life than thousands of words gargled by professional spellbinders. Little things in every film showed it—the intelligently-disciplined informality between officers and men; the alert, intelligent and well-educated types of enlisted men shown in the film and obviously typical of the intended audience; the frequent suggestions to the private soldier to “see if you can't reason it out yourself”—all spoke glowingly of the uncommonly high type of American citizen-soldiers being trained to defend our country. If the Army could see its way clear to release modified versions of some of the less technical of these films to the general public, it would be doing the public, as well as itself, a service, for it would bring to the folks at home an inspiring and heartening picture of the lives and training of their boys in uniform. And that's a very different life from that of the armies of yesterday.

These films—what we saw was but a dozen reels out of more than 100 reels produced since February of this year—are unique in another way, too. They represent the efforts of the finest creative and technical minds of the motion picture industry—producers, directors, writers and cinematographers who have won Academy Award honors, and who are daily turning out the industry's greatest films. Their professional services are, in the aggregate, literally beyond price, yet they are being given freely in the cause of their country's defense. And they are giving their country training films of a calibre no other nation on earth could possibly equal.

In the process, they are incidentally performing an outstanding service for educational films in general, for they are bringing into being an entirely new type of instructional motion picture. Not the conventional “dry-as-dust” type of educational film, which gravely presents a mass of facts to the accompaniment of a professorial narration, but something new and alive, a film which is in the best sense a motion picture, com-

binning factual value with true entertainment-film technique—story, synchronized dialog, human-interest appeal and even occasional humor. Offhand, we'd say from our own reactions that the impression created by one of these new-day films should outlast that of the average school-film ten to one, not merely because of the added inherent interest of the military facts presented, but because of the more interesting way in which they are presented. In doing this, the makers of these films are contributing also to the progress of visual education, and are likely to, as one educator put it, advance educational films by twenty-five years at a single stride.

All told, we can be mighty proud of what the industry is doing in making these little-publicized Army films.

NOT long ago, lunching at one of the major studios, we got to talking with one of the industry's better-known directors of photography. He was about to start a picture—and he wasn't particularly happy about it. “Yes, I'm starting a picture tomorrow,” he said. “But that isn't news. I'm always doing it! When the studio hasn't an ‘A’ picture for me, they put me on a ‘B’—and when they haven't even a ‘B’ going, they dig up a short or some tests for me. It's all very nice and efficient; they certainly see to it that I'm earning money for them every day I'm on the payroll!

“But here I am, starting a picture tomorrow, as soon as I finish retakes on another one tonight. But—the director I'm starting to work with tomorrow has just finished a three-months' vacation, while I haven't had even a day off in three months; my last vacation was over three years ago.

“And what'll happen—? My director will be all fresh and full of vim and vigor. I'm so tired my eyelids are dragging—yet I'm supposed to keep up with him not only physically, but mentally, as well. A dozen times a day he'll ask me if I have any ideas or suggestions for making this scene or that sequence better. Ordinarily, I would have; but now—well, I'm so fagged out I'll be lucky if I'm clear-headed enough to do even the routine work of photographing the pictures, let alone suggesting ideas that could make his work or my own better!”

There's a world of meat packed into those few sentences. Let's say, for the sake of argument, that from the auditor's or the department head's viewpoint it's good business to arrange things so that you get a day's work for every day a cinematographer graces a studio's payroll, even though you've an example of plenty of directors, actors and writers

who collect checks ten times as large every week, though they don't even drive by the studio gates when between pictures.

But, in the long run—it is really good business? After all, the success and saleability of a motion picture production depends on it's being successfully captured on film. A million-dollar star can become a million-dollar failure overnight if the man at the camera isn't alert to capture her subtle charm and glamor on his film—to offset with his lens and lighting those inevitable moments when she needs his help to preserve the essential illusion of youth and freshness on the screen. And his work is far more mental and creative than routine and physical. His eye must be sensitive to fine gradations of lighting; his mind fresh and alert to suggest ways in which the camera can aid in capturing dramatic moods, and suggest “production value” with minimized actual expense.

He cannot do this when he is physically tired and mentally stale. He cannot do it when he is routed rapidly from one production to the next like a bolt-tightener in a flivver factory. Subjected to such strains, the human body can take only so much. Above all, extended over work exhausts the eyes of the cinematographer—those eyes upon whose judgment of light and shade the successful photographing of a production and all it entails, depends.

Our executives recognize that mental and physical freshness are essential if they are to get the best work from directors, writers and players. They know that “all work and no play” makes Jack or Jane a very dull creative worker. They recognize in contracts and in their after-dinner speeches that cinematographers are no less creative artists than the three groups just named. Why, then, do so few of them recognize that cinematographers, too, can grow tired, stale—and less creative—if they're too consistently overworked?

WITH this issue, THE AMERICAN CINEMATOGRAPHER reaches its twenty-first birthday. During those twenty-one years, many changes have taken place in cinematography; many new fields—undreamed-of in 1920—have opened up. THE AMERICAN CINEMATOGRAPHER, dedicated from the start to advancing cinematography and serving the men behind the cameras, has undergone many changes too. But its governing policy, today as in 1920, remains unchanged: to serve in a practical way all who use motion picture cameras, either for business or for pleasure.

A.S.C. on Parade

With A.S.C.-Secretary Al Gilks called to active service with the U. S. Navy, the Society welcomes a new Secretary and a new member to the Board of Governors. Charles G. Clarke, A.S.C., takes over Al's duties as Secretary-treasurer and Charles Schoenbaum, A.S.C., takes the vacant seat on the Board of Governors.

Al Gilks, by the way, postcards from Washington, D. C., where as Lieutenant Gilks, U. S. N. R., he is for the present in the office of the Coordinator of Information, with no indication on as to where his further duties may take him.

We've an apology to Harry Davis, A.S.C., by the way. In last month's article about "Hollywood's Own" Naval Reserve Photographic Unit, we neglected to mention that Harry is known in Naval circles as Lieutenant Davis. We're sorry. In defense we can only say that the Navy has a reputation for picking good men—and not talking about it!

Random thought on seeing A.S.C.-Prexy Fred Jackman stroll out of the clubhouse gate accompanied by brother Floyd Jackman, A.S.C., son Fred H. Jackman, A.S.C., and ditto Joe Jackman: when you see 'em en masse like that, wouldn't you say the plural of Jackman ought to be "Jackmen?"

Another random thought as we stroll into the parking-lot to drive off in our V-8: what confusion there'd be if Charles Rosher, A.S.C., George Barnes, A.S.C. and Rudy Maté, A.S.C., all came out in a hurry, trying to decide which of three almost identical big gray Cadillacs belonged to which—!

Stanley Cortez, A.S.C., is certainly getting to be the professionally popular boy. No sooner did he finish a picture at Universal, than David Selznick sent him to New York—and in the middle of that, Orson Welles decided he wanted Stan to direct the photography of "The Magnificent Ambersons" for him, so Stanley had to 'plane right back to Hollywood.

Add things we didn't suspect: John Arnold, A.S.C., for lo, these many years M-G-M's camera-headman, once was the photographic Mr. Big for an outfit called Republic Studio. Only it wasn't today's up-and-coming Republic, but a long-forgotten organization in New York bearing the same name. You see, that was 'way back in 1910!

Recent invalid, Jerry Ash, A.S.C., back at work on a Universal serial, fifty pounds lighter but still full of wim, wigor and witality, thank you.

Daniel B. Clark, A.S.C., on his annual vacation from his duties as camera chief for 20th-Fox, off fishing at some inaccessible fisherman's paradise in the back-country of Utah or Nevada, which he discovered making some of those 87 thrillers with Tom Mix.

That man Ray Rennahan, A.S.C., certainly does get around. The other day we ran into him at lunch-time out at M-G-M, where he was making the current Community Chest Short with the Dr. Kildare troupers. An hour or so later we encountered him at Paramount, checking up on some projected added scenes for his latest, "Louisiana Purchase."

Sid Wagner, A.S.C., bedded with a bad attack of flu. Maybe during his convalescence he'll get a chance to use that new Speed Graphic he bought the other day.

Elmer G. Dyer, A.S.C., back from Canada with Warner's "Captains of the Clouds" troupe, reported for duty with John W. Boyle, A.S.C., lensing aerial thrill sequences for the Abbott-and-Costello starrer "Keep 'Em Flying." Meantime Joe Valentine, A.S.C., winds up the "production" part of the opus. Elmer, by the way, hopes this isn't as hair-raising an assignment as his last job at Universal. Seems that time—on a one-day call—Elmer nearly struck up an acquaintance with St. Peter when the motor of a low-flying camera-plane conked out and the ship sat down to rest in the Los Angeles river's sandy bottom. Elmer was so busy wondering just how and where they'd crack up that he clean forgot to switch off his camera-motor—and got a bang-up shot of a real, unstaged crack-up! Yep, believe it or not, the shot went into the production. Seems they needed a background like that, and had been wondering how they could get it—!

John Mescall, A.S.C., between pictures, one of the nicer dropper-inners at THE AMERICAN CINEMATOGRAPHER'S office.

Wonder why the U. S. Army seems to be a perpetual jinx to us; for six months or more we've been trying to get a good cover showing movie cameras in the foreground and Uncle Sam's Best in the background—and something always happens. Latest was during the recent manoeuvres in Louisiana. John Herrman, A.S.C., etc., covering the event for Paramount News, tells us he lined up a swell cover with not only the newsreel gang but also MGM's "Steel Cavalry" second-unit crew—Lloyd Knechtel, A.S.C., and their crews—lined up in front of a battalion of tanks. And the innocent bystander Herrmann pressed into service to trip the shutter somehow bungled it,

spilling the camera and plateholder (but separately) among the Louisiana mud. Sabotage, we'd call it!

Honorary Member Eddie Blackburn, A.S.C., beaming paternally over the go-gettiveness of Teddie, Jr., demon Satevepost salesman. Once one of those Blackburns has you spotted as a prospect, you're a gone coon, whether it's for Steveposts or Eastman Film.

Gregg Toland, A.S.C., with Goldwyn's "Ball of Fire" completed, off for a Mexico City vacation.

John Alton, A.S.C., so we understand, has just signed a contract with Republic. Quite a month for that studio—joining the Producer's Association to take on Major Studio status, and adding a camera-artist like Alton all within the same 30 days.

Pev Marley, A.S.C., can point with pride to the fact that two of his pictures opened two of Los Angeles' swankiest cinemas: the initial attraction at the Carthay Circle Theatre was Pev's "The Volga Boatman," and Grauman's Chinese opened with "King of Kings." Quite a record!

Lester White, A.S.C., will probably rise to remark that while some recent shots may cover a lot of ground, its nothing compared to the intricacy of those Director Busby Berkeley's had him doing for "Babes On Broadway." We think he's got something there—last time we dropped in to visit Les on the set he was up against the problem of making a sidewise dolly-in crane shot which ran from an extreme long-shot to an equally extreme close-up of Judy Garland's left tonsil in the middle of a high note. And he says that was one of the easier ones—!

Tony Gaudio, A.S.C., enjoying an enforced month's layoff before finishing "The Man Who Came to Dinner," while star Bette Davis recovers from an accidental nip given by one of her pet pooches in a spot where no movie-star should ever be nipped.

Karl Struss, A.S.C., can point to the fact that his forebears have been U. S. Americans for 103 years now. He's a third-generation Yankee.

John Arnold, A.S.C., crowing over the fact that production has been so becoming at MGM that one day recently he had no less than 29 A.S.C. members on the payroll.

Lucien Ballard, A.S.C., on a between-pictures vacation, somewhere between Del Mar and Boulder Dam.

James Wong Howe, A.S.C., lunching in the Warner studio commissary with a very charming-appearing Chinese lady.

PHOTOGRAPHY OF THE MONTH

WEEK-END IN HAVANA

20th Century-Fox Production (Technicolor.)

Director of Photography: Ernest Palmer, A.S.C.

"Week-end In Havana," latest in Producer Zanuck's Technicolored musical comedy tours of Latin America, is a very pleasant evening's entertainment, but beyond that it has a special photographic significance. It is one of the first Technicolor productions in which the photographic responsibility lay solely on the shoulders of a "production" cinematographer, with no assistance from a Technicolor specialist. The results on the screen prove that, when the assignment is entrusted to as brilliant an artist as Ernest Palmer, A.S.C., this course is well justified. In this production Palmer turns in a performance which eclipses all of his previous Technicolor achievements, with of course the exception of the superlative "Blood and Sand."

His treatment of the players, with the exception of a few early scenes in which John Payne's make-up and facial rendition are below par, is uncommonly fine. Certainly Alice Faye has not in a long time appeared to such good advantage; in some of her previous recent appearances we have felt that despite the efforts of the very capable cinematographers involved, she showed too obviously the signs of overwork and ill health; but in "Week-end In Havana" Palmer again shows her as the beauty we expect to see. Our sincere advice to the lady would be to insist hereafter on Technicolor photography, and Ernie Palmer at the camera!

Palmer's compositions and set-lightings throughout are a joy to the eye. Substantially black-and-white technique is used, and to very good advantage. Throughout, the lightings are more strongly directional than has often been the rule in Technicolor productions, and compositions are enhanced by the type of background shadow-patterning familiar in the better-photographed black-and-white productions, but all too often avoided when filming in color. The production very definitely gains in pictorial effectiveness from this technique.

Another outstanding highlight of the production is the set-design by Richard Day and Joseph C. Wright. They have made uncommonly effective use of soft, pastel colorings in their sets—especially very pleasing tones of soft blue and blue-green. This set-coloration adds definitely to the dramatic mood of the action, without becoming at all obvious. The settings and the costumes by Gwen Wakeling are also very artistically coordinated.

HONKY-TONK

Metro-Goldwyn-Mayer Production.

Director of Photography: Harold Rosson, A.S.C.

A year ago Hal Rosson, A.S.C., had a strong contender for the black-and-white Academy Award in "Boom Town." In "Honky Tonk" he has a very similar type of picture and—in this reviewer's opinion, at least, acquits himself if anything a good deal better than he did in the film which almost brought him last season's "Oscar." The present release seemed to us a good deal smoother photographically—a better coordinated whole, than did "Boom Town."

It may be that part of this is due to the fact that "Honky Tonk" gave Rosson a fuller scope for interestingly pictorial effect-lightings than did its predecessor. At any rate, Rosson has handled them well, and imparted to the whole production a smoothness and finish which the other somehow lacked.

A picture like this offers a queer paradox, anyway. Full of rough-and-ready action, well spiced with shooting in the time-honored "western" formula manner, it none the less cannot be given anything like conventional "western" camerawork, for it serves as a showcase for two of the studio's top-flight stars, whose photographic value must be protected at all times. Rosson does a grand job of this; he gives Clark Gable the desired virility, and at the same time deals very glamorously indeed with Lana Turner. The latter, by the way, is no easy thing to do when you're working within the framework of an ostensibly rough-and-ready action picture.

There's no telling, as yet, whether Rosson's present release will do as well for him as "Boom Town" did—but this much is sure: he's gotten his name on the credit-title of what's bound to be one of the big box-office films of the year!

NOTHING BUT THE TRUTH

Paramount Production.

Director of Photography: Charles B. Lang, Jr., A.S.C.

Transparency Process Photography by: Farciot Edouart, A.S.C.

Some of the ladies and gentlemen of the press whose duties deal with reviewing films from an entertainment standpoint have commented that "Nothing But the Truth," while entertaining, still at times evidences the unreality of the old-time farce-comedy. In making this criticism, it seems to me that they underrate the contribution made by Cinematographer Lang. His camera-treatment gives this dramatic veteran a really streamlined presentation which does a lot to make it seem at once more real and more modern than it actually is. A psychologist could probably point out that the polished camera-treatment Lang uses—so reminiscent of what audiences

have repeatedly seen in other, more significant pictures—brings by subconscious association an impression of reality and modernity which would be missing in a less capably photographed version of the same film.

At any rate, Lang has done an excellent job. His handling of the sets is pictorially effective and technically very smooth indeed. His treatment of the players is another highlight: as usual with Lang's work, there is an effortless ease in his presentation of the actors which gives the impression that it must have been a very pleasant assignment, nothing at all like work. Yet in actuality, this effortlessness is in itself evidence of photographic skill of a very high order.

The special-effects work by Farciot Edouart, A.S.C., is as usual very excellent, indeed.

A YANK IN THE R.A.F.

20th Century-Fox Production.

Director of Photography: Leon Shamroy, A.S.C.

Special Aerial Scenes filmed in England by: Ronald Neame, Jack Whitehead and Otto Kanturek.

Leon Shamroy, A.S.C., gives his accustomed polished camera-performance in "A Yank in the R.A.F.," though it hardly takes place in this reviewer's mind as among Shamroy's best work. His treatment of the players is, as usual, excellent, and his effect-lightings—especially in the London blackout sequences, extremely interesting. His handling of the much-publicized sequence of the evacuation of Dunkirk is spectacular, and makes one wish greater footage had been allotted to this action. The special-effects work throughout is commendable, with process-shots which, while less outstanding than some seen in other recent flying pictures, are none the less evidence of definite improvement in this studio's process work.

The dogfight miniatures at the end of the picture are excellent, but much too brief; their footage could have been almost doubled to good dramatic effect.

By long odds the photographic highlight of the production are the aerial sequences filmed actually in England by Ronald Neame, Jack Whitehead and the late Otto Kanturek. These scenes, many of them filmed under fire, rank in effectiveness with the best work turned out by Elmer Dyer, A.S.C., in this country. Due to the terrain, the type of aircraft shown (the famous "Spitfires") and England's unique atmospheric conditions, these shots could certainly not have been duplicated in this country; they add mightily to the effectiveness of the production. It is infinitely to be regretted, however, that they cost the lives of several men—Cinematographer Kanturek, his crew and pilot—who were shot

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An Amateur Tries 16mm Sound-On-Film Recording

By KENNETH O. HEZZELWOOD

St. Paul Amateur Movie Makers Club

SINCE 1927 I have made motion pictures, both in sixteen and eight millimeter, and I have enjoyed every minute spent in capturing on film the high points of vacation trips, family gatherings, or special events, and in making titles to dress up the films.

But for concentrated thrill and ecstatic excitement, the production of sound-on-film with my Auricon recorder supercedes all the joys—and all the sorrows—which one person could expect from a century of silent movies.

Sound recording has lifted me above the mountain tops—and it has dashed me on the rocks in the lowest part of the valleys. There have been times when the Auricon has seemed to be a cherished possession—and times when the classified section in THE AMERICAN CINEMATOGRAPHER might soon advertise it “for sale—cheap.”

After visiting the sound stages of several Hollywood companies, and chatting with Bill Yale, ace cinematographer of the Great Northern Railway, I decided that silent pictures, even when accompanied with disc sound effects and music, might soon be passé even in the amateur field, much as the silents have dwindled away from the professional screen.

Two pictures, one in color, were made at sound speed, 24 frames per second, planned especially for sound to be added, just before E. M. Berndt announced the Auricon recorder at a price within reach of amateurs. Instead of having a laboratory record the sound, I plunged and bought the recorder—in one swoop risking what little was left of my budget and my reputation—to produce a semi-professional sound picture for the St. Paul Police department, entitled “The Wide Open Town.”

With no more experience than the average home movie fan, I tackled a job which ordinarily requires a qualified sound engineer and a great deal of expensive apparatus. By trial and error and much laborious splicing, with my wife's help in recording, I turned out a sound film to which a reputable sound engineer would listen only if his ears were thoroughly plugged with cotton, but which manages to hold the attention of local audiences until the end of the picture. And that is the criterion by which this first effort must be judged.

Kodachrome seemed an expensive me-

dium for the first experiment in sound-on-film, so monochrome was used.

Editing for sound is different than for a silent strip. I missed the transition titles, and the longer scenes. The script required many short scenes, and they had to be cut down so the narration would not drag. Even so, I left many scenes too long because I felt the audience might need more time to view the picture.

The sound-track contained the announcer's voice, a few musical interludes taken from records, and four or five sound-effects which were spliced into the sound to synchronize with the action. It was necessary to make several recordings before one was suitable; when the first ones came back completely spoiled—noisy and choppy and unintelligible—I was about ready to give up and try golf again to see if I could break a hundred.

It was then that I discovered Auricon had a pretty complete set of directions. It gave me several new ideas on microphone placement, acoustical treatment of the announcer's booth, and emphasized the importance of keeping the sound recording level below the upper recording limit for best results.

I had made my mistakes, plenty of them, but finally finished the sound track which was sent with the original picture to a laboratory for the production of a combined print.

When the print arrived, behold, the sound was several seconds late at each cue-point in the picture. I sweat blood again, and then discovered that the laboratory had made the mistake which they acknowledged, and supplied another print, correctly synchronized.

Since the professionals, too, had erred, it eased the chagrin I felt for my own foolish blunders!

The first color picture intended for sound, never materialized, as the subject matter didn't come up to my expectations, but a friend had filmed 100 feet of the 109th Aero Squadron leaving St. Paul for Louisiana, and wanted sound applied to the original Kodachrome film before the picture was developed.

He had made his picture on an Eastman Special, using Kodachrome sound recording stock, but he had only a vague idea of the footage used for each sequence of shots. We wrote up a general



Top: Hezzelwood carefully logs footage of each scene; note soundproof projector-booth in rear. Middle: one man operates recorder and record turntables. Bottom: the Auricon recorder that did the job

description of the event, and used a sound-effect record of an airplane circling and swooping overhead. His original film was rewound in a darkroom and threaded in the recorder.

When the recording was finished, the roll was sent to the laboratory for processing of both the picture and sound-track, and upon its return, I experienced another of those ecstatic moments dear to the experience of photographers—to see the picture for the first time, and also to listen to the sound track—hoping that each would be good, and that both would synchronize harmoniously.

They did!

Engines roared on the amplifier speaker just as planes dived into the picture. Planes obediently took off just as the announcer described. Every frame of the 100 foot roll was perfectly exposed.

A member of our movie club saw the film, and soon he bought an Eastman

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I MAKE A TRAVELOGUE IN OLD QUEBEC

By CHARLES W. HERBERT, A.S.C.

MANY Americans found out this summer that they don't have to cross the Atlantic for vacations with Old World atmosphere. Just north of the border, over into friendly Canada, there's the Province of Quebec which was settled at the same time, in the same manner and by the same kind of freedom-seeking people who established our own first thirteen colonies.

Quebec is a vast country with plenty of open spaces, yet thickly settled in spots. It encompasses the bulk of early-day historical settings in the new world to the north. Quebec's people and their work vary from highly centralized industry to widely separated agricultural activities. In the south, Montreal, the greatest city in Canada, patterns its daily life after any one of the manufacturing cities just south of the border in the United States. Far to the north there's one of the most vital war-products plants on the North American Continent. In the back country, trapping has

been an important occupation since the first Hudson's Bay Company trading-post was established. Through the wilderness areas, lumbering and pulp paper making rank high as revenue-producing industries. Yet in between, here and there, plain farming folk live their lives in true old-world manner.

Quebec has had a record crop of tourists this year and in addition has had a record flow of wandering travelogue cameramen combing every corner for outstanding shots. Most cinematographers who come to Quebec with extensive plans for covering the whole province soon give up this unwise plan and select a specific region in which to work. It's just too vast and there's too much to see and shoot in relatively narrow regions. The City of Quebec and its environs can furnish enough material for a travelogue for any cameraman, professional or amateur, who digs into corners and goes over the fences and inside the walls.

The Gaspé peninsula is one of the

favorite hunting-grounds for photographers. It has been done often but there's still more to do and it is always interesting. The southern part of Quebec can furnish enough material for a good travelogue reel any time. The Laurentian Region affords abundant opportunity for outdoor activities, especially hunting and fishing, in pictorial mountain settings. Lake St. John is surrounded by a wealth of material, most of which lies conveniently along its shores.

The banks of the Saguenay abound in quaint little villages and modern industries which can be woven into a sure-fire pattern for an outstanding reel. Then there's Charlevoix with a wide variety of tourist activities and luxurious settings mixed in with primitive life that thrills the traveler at every turn of the road. The Isle d'Orleans would in itself provide the camera artist with a wealth of subjects with just the right flavor.

I learned that two outfits were planning to do Gaspé so struck that off my list and decided on the Saguenay-Charlevoix Region which is seldom touched by photographers who are on a limited schedule. No travelogues can be made best if the cameraman is restricted to a definite schedule, and still no company can produce travelogues economically if time is not considered as a factor. Thus I tried to strike a medium by keeping working-time down to a profitable limit and yet planning for thorough coverage of the region for outstanding highlights.

Following my usual pattern I drew up an outline from information I was able to gather out of booklets read on the train on my way to Quebec from my last stop, which was Montana. In Quebec, after conferences with the Quebec Tourist Office, our co-operating agency, I altered and added to the prepared outline. But in principle the outline was much the same as any that I use for the regular type travelogue.

There must be, in the ideal travelogue, an introduction that convincingly establishes the location of the reel. These introductory shots should be outstanding and show the type of the country—whether mountains, sea shore, city, desert, rolling hills, farm land, or whatever it may be. In this region I made a shot here and a shot there which I believed gave the true atmosphere of the country covered. There was a soft, beautiful coast-line shot, a graceful waterfall, a winding country road, a small village dominated by a piercing church spire, a rugged fjord view and a happy flower-decked landscape. These shots were of course made as I came to them while making the main body of the film. But they were planned ahead of time; I went about consciously looking for them.

The rest of the reel should be composed of at least six different sequences, but we always try to get eight so that the editors can make a choice. Each one of the sequences should be as different from the others as possible. Only one important, outstanding industry should be covered; only one religious aspect,

one agricultural angle, one folklore feature, one educational activity, now-days one military movement, and just one historical, scenic or recreational attraction.

Up at Chute Caron I found one of the most powerful power-plants on this hemisphere. With a shot of this as a lead, I worked up a sequence of comparison between modern power and primitive power which is still much in use in Quebec. There was an antique water-wheel which turned an old fashioned grist-mill; a windmill powering a barnyard saw; a tread-wheel running a home threshing plant and a queer home-made washing machine propelled by a small water-wheel. Rushing water at the gigantic dam contrasted with the slow deliberate movement of primitive water-wheels cut together into a smooth running sequence that embodied all of the spirit of Quebec.

Down along the banks of the Saguenay, I found a little Christmas-tree town, Descent des Femmes, which had just the right setting for a folklore sequence. Viewed from a fifteen hundred foot height above, a high shot looking down furnished an ideal introductory long-shot. The little church stood out prominently and I made many closer shots of the people coming out of the church, and then followed with some scenes of village life, ending with a complete dance sequence.

These simple country folk turned out in force, fiddle and all, at an hour's notice. We brought an event worth talking about into their hemmed-in, placid lives, and they danced away for several hundred feet of film shot from every angle which would cut into a perfect dance sequence. Their kindness and patience could not be matched anywhere. My assistant and I enjoyed our brief stay, and the food which they served topped anything we obtained elsewhere on the trip.

The story of pulp is almost a complete reel in itself but I concentrated on the spectacle of great masses of logs tumbling down to the mill, floating on the storage lakes, moving systematically on conveyors into the mill, hurtling through the powerful barking-drums and building up the ever growing-storage pile. I felt that this was sufficient to tell the story and decided that it was useless to attempt to go inside for mill shots although they were impressive and interesting.

For a peaceful farm sequence, shots were made of several typical farm layouts. Then a series of shots of the huge rhubarb patches that are a part of all farms in that country, tied in with cultivating with oxen, bringing in the cows, women working in the fields, sawing wood, churning butter, sharpening an axe and baking bread in an outdoor oven. There are many aspects of farm life which could be covered but when you are trying to produce a single travelogue reel on a profitable basis you can't make everything—just enough to build up a brief sequence. Also when you are making travelogues all the time it is a good idea not to make the same shots

Cross-section of a travelog: "human interest"; a reverent touch of religion; village life, and village homecrafts.

in each reel where a similar sequence is covered, but to save some shots for the next reel. This, by the way, is an excellent plan for the amateur travel-filmer to follow, too.

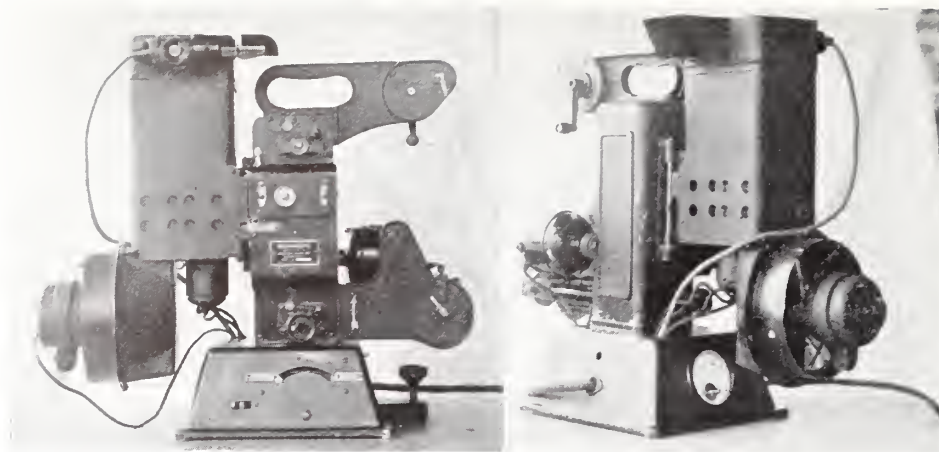
Since I was working on the theme "In Old Quebec" it was distinctly in order to follow the farm sequence with one on handicraft. A perfect home interior was located with the right types for spinning and weaving. These settings gave ample opportunity for convincing angles and intent action shots. Well-suited for incorporation into this sequence were shots which we made at one of the attic factories where hooked rugs are made exclusively for the tourist trade. There an impressive general view was obtained, which was logically followed with close-ups of the girls working, close-ups of the movement of their hands and close-ups of the patterns which they skillfully copy day after day. These hooked rugs are world famous and take up a good portion of the customs exemption allowance of most American tourists returning home from Quebec.

For scenic and recreational appeal we found Tadoussac, a quaint summer resort 'way up on the north bank of the Saguenay where that historical river empties into the St. Lawrence River. And there in Tadoussac was one of those "only one of its kind" features we always try to find in any new field. Sand skiing—and boosted by a Sand Skiing Club. I suppose that sooner or later every cameraman who works around sand dunes thinks up the gag of having bathing girls skiing or trying to ski down the dunes. Usually such gag stories turn out to be pictorial with long slow-moving shadows on the sand or else just another excuse to exploit the bathing girl. I've done three such stories, in Egypt, in New Mexico and in Florida. But this was the real McCoy! Here was a genuine Sand Skiing Club and a natural feature which filled in a wide gap in my planned film.

Naturally I devoted more time to this than most any other feature. I had to get the angles and I had to build it up pictorially. The sand dune was easily two hundred feet high and steep enough so that you could really ski down it. We had to search for expert skiers. That wasn't so easy and many of the shots which were intended to be good action turned out to be comedy-relief angles as my cast just couldn't ski well enough. But we made the best of the opportunity and included tobogganing shots and a boy on a home-made contraption that looked like a cross between a ski and a bicycle. The next day we were fortunate in getting several boys who could really ski and who also had the nerve the sport required. Making shots from the top, others from the middle of the slope and some from the bottom turned out to be real labor. My outfit, a standard Mitch-

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Modernizing The Old Model A Kodascope

By G. EVERETT MARSH

Vice-President, Washington
Society of Amateur Cinematographers

THE very first 16mm. projector manufactured commercially—that venerable and reliable patriarch of the amateur movie field, the Eastman Model A Kodascope—is still one of the most efficient projectors you can find anywhere. But home movies have changed a lot since the original Model A made its bow nearly twenty years ago; where the early home movies were projected on screens measuring from 18 inches to 2 or 3 feet in width, today's amateurs demand the power to put a good picture on screens 6 to 8 feet wide—or even wider.

That means more light—and lots of it! Luckily the mechanical and optical systems of the old Model A are unusually good, so all that is necessary to bring this cinematic grandfather up to date for silent-film projection is to modernize the lamp-house. Here's how I modernized mine, rebuilding things just enough to permit the use of a 500-Watt globe, or even a larger one, complete with the forced-draft ventilation today's high-powered projection-bulbs demand. With this home-made glandular injection, the old Model A will more than

hold its own beside any of its streamlined present-day descendants.

The original lamp was a 50-volt, 250-Watt affair connected to a resistor with a sliding contact for controlling the filament current. This resistance with its container which weighed several pounds, was removed and the leads soldered together.

The use of a 500-Watt lamp of course made forced ventilation necessary. As the base of the larger lamp fits the socket of the other one, no changes were necessary at that point. The required increase in cooling was provided by a small, 110-volt desk fan. An opening was made in the rear of the base of the lamp-house and a suitable housing for the fan was fashioned from two small pans whose centers had been removed and whose rims were fastened together with four small machine-screws and nuts. A duct fashioned out of tin joined the exit opening of the fan-casing to that in the base of the lamp-house and was secured by small machine-screws and nuts.

It was necessary to cut a little off the ends of the blades of the fan in

order to secure proper clearance. Inasmuch as the inner end of the fan shaft was rather inaccessible for oiling, a small copper tube was soldered to the frame of the motor, the lower end leading to the bearing and the upper end brought up into view.

A new top for the lamp housing was made from sheet tin and with the exit on the left side thereby directing the heat of the lamp away from the operator who may be conveniently seated on the opposite side. The projector was also equipped with a small lamp and switch on the right-hand side to give suitable illumination when threading the machine. This part can doubtless be recognized as having come from the 5 and 10.

A coat of black enamel was given the new construction to make it harmonize with the rest. The entire cash outlay was perhaps a dollar and a half, of which two-thirds was for the fan. The improvements performed satisfactorily in every way.

It sometimes happens that no matter how much preliminary thought is given to an impending construction and when the finished work is shown to admiring friends, one of them is bound to say "Why didn't you do it this way?" Frequently the builder, having considered the idea, has an answer that is satisfactory; sometimes not. Such was the case here.

The exhibition of the improved projector was made with no inconsiderable pride to fellow-members of the Washington Society of Amateur Cinematographers, and sure enough, one of them said "Why didn't you do it this way?" His idea is so good it is passed on for the benefit of anyone who may desire to bring his early model projector up to date.

He made the suggestion of using an electric hair-dryer, with its heating element and handle removed, as the means for obtaining the necessary draft. A little tinwork, soldering and use of small machine-screws would supply the required attachment of the dryer to the opening in the lamp housing and it would have the advantage of being a good deal more compact.

As is well-known, the cold resistance of a lamp is only about a tenth of its resistance when lighted. When the switch is closed there is a momentary rush of current through the filament which is several times normal and the rate of heat-production is several times 500 watts. The life of the lamp is doubtless reduced somewhat by the excessive current and it would be a good plan to use a two-point switch that would cut into the circuit on the first point, say 5 or 10 ohms, to prevent this over-shooting. On the second point, the connection is as usual.

The movie enthusiast who is reasonably handy with a few simple tools and who has one of these low-wattage projectors will not find it a difficult matter to bring Grandfather Kodascope up to date and will be amply repaid. **END.**

What Does "Color Temperature" Mean To Your KODACHROME?

By GEORGE J. FOLSEY, JR., A.S.C.

TO many people—not all of them amateurs, by any means—one of the most perplexing things in color photography is the term "color temperature." It's also the cause of a lot of disappointments and headaches when Kodachrome interior scenes are filmed and fail to turn out as expected. So let's take this matter of color temperature apart and see if we can't find out what it means, and learn how to make it work for us, rather than against us.

Now that the season is getting around to fireplace-and-furnace time again, you can get acquainted with color temperature right in your own home. Just take the family poker and shove it into the fireplace or furnace: you'll notice that as it begins to get warm, the iron glows a dull red; then as it gets hotter, the red gets brighter and brighter, becoming a distinctly orange color. That's about as hot as you can get it without forced draft—but if you continue the experiment with a blowtorch or a blacksmith's forge, you'll find that as the heat increases, the color of the metal changes from orange to yellow, and finally becomes white, and in some cases almost bluish white. If you had any means of measuring the temperature of the poker, you could work out a neat little table which would show you that at so many degrees temperature, the iron was glowing redly; at so many more, it was yellow, and at such-and-such a top temperature, it had become white-hot.

That is exactly what the British physicist, Lord Kelvin, did quite a number of years ago. As a result he worked out a scale, based on the radiation of specific materials heated under controllable laboratory conditions to definite degrees, by which he could very accurately designate the color of light from any source. And just as increasing temperature in the poker raised its coloring from red to yellow to white, so in his scale reddish light is represented by comparatively low "color temperatures," and whiter light by increasingly higher "color temperatures." In the Kelvin scale average sunlight at sunrise, and also candle-flame, both of which are quite red, are rated at about 1850°K (for Kelvin), while average noon sunlight is rated at about 5250°K. Ordinary blue sky is given a rating of 11,000°K, and extremely blue, clear northwest sky is about 25,500°K.

Now, just what does all this mean to you and me when we want to shoot up a roll of Kodachrome?

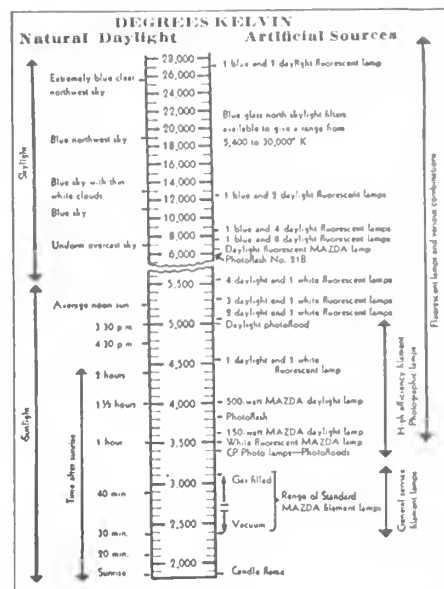
Just this: that if we want to get normally colored results on the screen, we've got to watch the coloring—or the color temperature—of the light we use to make our exposure! We've all of us seen what happens if we shoot a Kodachrome scene late in the afternoon: well, "regular" or daylight Kodachrome is so sensitized that it will give normal color rendition in average noon daylight; that is, with light of approximately 5250°K. But the light an hour before sunset has dropped off in color temperature to about 3500°K, which means that instead of being white light, it has become definitely orange. Our eyes are often not aware of the change—consciously, at least—because they're too automatically connected to our brains, and we subconsciously compensate for the change in color so that we actually see things as they aren't. But the color-film, being a simple, unreasoning piece of chemical reaction, "sees" things—and reproduces them—as they really are.

These differences in color temperature get much more important—and more noticeable—when we start making Kodachrome scenes by artificial light. Most of us have at least once had the experience of making an interior scene, either intentionally or by accident, using "regular" Kodachrome instead of Type A. The result was definitely an off-color red-orange on the screen. The reason was that we used film intended for use with light of around 5,000°K in light that was around 3400°K, and consequently much redder. No wonder the result was about as though you'd shot it with a "G" filter on your lens!

But the Type A Kodachrome emulsion is sensitized so that it will give normal results with light of just that red-orange color—to be exact, the 3380°K color temperature of a new Photoflood bulb. Therefore, using Type A and Photofloods, you get the normal-appearing, pleasing results we've come to expect in well-photographed Kodachrome interiors.

But sometimes in amateur-made Kodachrome interiors, and even more often in commercial 16mm. Kodachrome scenes, we find that all or some parts of the scene may have a reddish or orange tinge a good deal like that we get when we shoot Daylight Kodachrome under Photofloods. Yet—we've used Type A in what we thought was the correct manner. What was wrong this time?

It could be any one of several things. If the reddish hue extends pretty well



The Kelvin color-temperature scale as applied to natural and artificial light. (Courtesy General Electric.)

over the whole scene, and isn't too pronounced, the trouble is probably that the Photofloods we used were all pretty old. For in exactly the same way an ordinary Mazda bulb in your desk-lamp gets dimmer and more yellowish as it has been burned a long time, so the Photoflood gets dimmer and yellower as its useful life is burned up and the tiny tungsten particles emitted from the filament blacken the inside of the globe. The remedy is to try it again with fresh globes.

It often happens in making commercial Kodachrome movies that this overall reddish hue—and especially Indian-red faces—mars interior scenes. In this instance, the trouble is likely to be something that doesn't often affect the amateur's work. You simply shot your picture on Type A Kodachrome, which is balanced for light at 3380°K—and made some use of the ordinary high-powered Mazda globes we use in black-and-white studio camerawork, which burn at a color temperature of 3200°K, which is about the color of sunlight 45 minutes before sunset. No wonder you got red-skinned faces! The remedy in this case, since your professional Kodachroming calls for lamps much bigger than even No. 4 Photofloods (and not frosted, if you are using spotlights) is to employ the "CP" (color photography) type globes which are specially made for color photography. These burn at approximately the same color temperature as Photofloods—3380°K—and are available in several sizes ranging from 2,000 Watts to 10,000 Watts.

Sometimes in both commercial 16mm. and amateur Kodachroming it may be necessary to use baby spotlights, "Dinky Inkies," and the like, for which "CP" globes aren't available, and for which uses the inside-frosted Photoflood globes aren't suitable. In that event, you can use light blue gelatine filters on your lamps to raise the color temperature.

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Scenario For Filming Thanksgiving

By JEANETTE REED

HERE'S a scenario specially planned for rounding out the usual family Thanksgiving shots into a complete little home movie comedy. I can recommend it especially to wives of serious-minded cinefilming husbands who—with the very best of intentions—are always getting in the way with camera and lights when the family has something important to do.

Main title: THANKSGIVING WITH THE FILMERS.

Scene 1: FADE IN. Joe and Sally Filmer are seated by their projector. He stops the projector, shakes his head disgustedly, and turns to his wife, speaking.

Title: "THIS YEAR I'M GOING TO GET A REALLY COMPLETE THANKSGIVING MOVIE—IF IT KILLS ME!"

Scene 2: Close-up of Joe as he finishes speaking. FADE OUT.

Scene 3: FADE IN. Joe, with his camera, standing in a market, consulting his exposure-meter. He shakes his head; no use, not enough light. He turns and speaks to Sally.

Title: "WE'LL GET A BETTER SHOT—AND A BETTER TURKEY—IF WE DRIVE OUT TO SOME FARM." FADE OUT.

Scene 4: FADE IN. Long-shot of the family car rolling along a country road.

Scene 5: Close shot of Joe, Sally and

little Susie in front seat of car. Sally points to something ahead.

Scene 6: Close-up of farmer's roadside sign, "Turkeys, 20c per lb."

Scene 7: Long-shot of farm buildings. They're rather drab and disreputable; not at all picturesque.

Scene 8: Same as Scene 5. Joe looks, then shakes his head. Obviously, he doesn't see a picture in that location. The car spurts ahead. (This can be done with the car motionless, by moving the camera to the side, away from the car, as though the car had moved forward out of the picture.)

Scene 9: Insert, similar to Scene 6, of sign, "Turkeys, 18c per lb."

Scene 10: Close-up of Joe, shaking his head.

Scene 11: Insert of another sign, with slightly higher price.

Scene 13: Insert of still another sign. This one says "Turkeys, 40c lb."

Scene 14: Long-shot of a very picturesque farmstead.

Scene 15: Close-up of Joe, nodding enthusiastically. This is it!

Scene 16: Long-shot of Joe, busily getting an effective angle-shot of Sally and Susie with the farmer, as they go through the business of buying the turkey. (You can build this up ad lib, with shots of Joe reading meter, setting up camera, planning composition, moving camera, etc.)

Scene 17: Close-up of a large turkey gobbler, gobbling excitedly.

Scene 18: Medium-shot of Joe, from rear, squatted down getting arty angle-shot, oblivious of everything else.

Scene 19: Close shot of large gobbler, rushing toward lens.

Scene 20: Close-shot of Joe, registering sudden surprise. His camera flies up, and he leaps suddenly out of picture.

Scene 21: Close-up of turkey, gobbling. FADE OUT.

Scene 22: FADE IN. Medium-shot of family getting out of car. Sally carries a dressed turkey. Joe limps a bit, and rubs his rear. FADE OUT.

Scene 23: FADE IN. Long-shot in kitchen. Sally and the cook are busy getting the Thanksgiving dinner ready. Intercut with—

Scene 23-a: Close-ups, ad lib, of different operations in cooking dinner. And—

Scene 24-a: Close-ups, ad lib, of Joe fussing with camera, lights, etc., getting very "arty"—and also in everybody's way.

Scene 25: Close-up of cook's foot tripping over lamp-cable.

Scene 26: Very short flash, big bowl of hard sauce, mashed potatoes, or the like, flying upward.

Scene 27: Close-up (short flash) of Joe. The bowl lands, upside-down, on his head, with appropriate spattering.

Scene 28: Short flash of camera sliding along floor.

Scene 29: Close shot of Joe, sitting up and slowly removing mashed potatoes from his ear. FADE OUT.

Scene 30: FADE IN. Ad lib shots of family guests arriving, Joe, Sally and Susie welcoming them, etc. On last shot of group, FADE OUT.

Scene 31: FADE IN. Long-shot of the Thanksgiving dinner-table, bountifully spread, if possible with guests arriving and taking their places. Follow with—

Scene 32-a: Ad lib close-shots of guests eating. Intercut with—

Scene 33-a: Ad lib close shots of Joe, busily engaged in getting tricky angle-shots of his guests. Insert shots of his vacant place (no plate) and Sally urging him to come and eat. FADE OUT.

Scene 34: FADE IN. Close shot of Joe, beaming, as he sits down to his place. Pan down to his plate—just remnants: the "parson's nose", and similar unfavored portions.

Scene 35: Series of close flashes of the well-picked skeleton of turkey, empty serving-dishes, etc.

Scene 36: Close-up of Joe. He looks disgusted, then remembers, smiles in a more cheerful way, and speaks.

Title: "WELL, I GOT A GOOD PICTURE ANYWAY!"

Scene 37: Medium-shot of Joe, at table. He looks down and opens his camera. Then his expression changes to horror.

Scene 38: Close-up of the camera as it is opened. It is full of a packed mass of jammed film! (It'll be cheaper if

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EDITING A GOLF MOVIE

By ORMAL O. SPRUNGMAN

Minneapolis Cine Club

SHOOTING a golf movie is not half as difficult as trying to whip the disjointed scenes into some sort of continuity. Not unlike hunting and fishing, golf requires a stout-minded cinematographer who can forsake his sport in favor of filming when the occasion arises. He must be iron-willed enough to ignore the dictates of his friends by eliminating over the splicing-block all poorly-exposed footage as well as those scenes which add nothing to the movie itself, but might actually detract from it.

Suppose that your summer's accumulation of unedited golfing reels has reached alarming proportions. The first step is to project each reel slowly, writing down on paper a brief description of each scene. Devote a separate sheet to each reel. Your notes may run something like this:

- LS Rolling Hills Golf Course
- MS Joe Whozits practicing swings
- CUT out-of-focus shot of first hole
- LS boys walking out of club house
- CU head views only
- MS teeing off
- CU club hitting ball

LS stands for long shot; MS for medium shot; CU for close-up; and CUT means eliminate.

Number each sheet to correspond with each reel after projection, then sit down and rearrange the continuity on paper. With a fresh 400-foot reel on the take-up spindle, start cutting and editing in regular order.

It is not necessary to splice as you go along. Instead, cut Scotch tape into one-inch lengths of 8 mm. or 16 mm. film width, and join the ends of succeeding scenes together, spooling them on the take-up. When the entire film is in the desired sequence, go back and make the actual splices. Even while splicing, continuity can still be changed.

Maybe you've filmed five or six different golf outings. Not one is long enough in itself to make a fair-sized feature, yet by finding a common thread it is possible to combine all of them in a single reel. Sometimes the additional post-golf scenes needed for continuity can be shot right in your home.

For example, you could fade in on a close-up of an end-table bearing a copy of a current golfing magazine. A hand reaches over and picks it up. It's your hand, and as you thumb the pages you blurt right out in title form that good golfing really is. Now take the time you were out at the Drooling Duffer golf course and shot a couple birdies

and maybe three eagles. Introduce your first scenes here. When they're used up, cut back to yourself. As you reflect, you simply cut in other miscellaneous golf shorts, until all your extra footage is pretty well in hand.

For a humorous touch, save one of your worst putts or slices until the very last scene, then swing back to the magazine pages, dissolve into a close-up of an article titled something like "Elementary Golf for Beginners," and show a near shot of yourself concentrating on absorbing all the information. Fade out.

Titling a golf movie should provide little difficulty. Although there are still some moviemakers who excuse their untitled efforts on the grounds that they are poor letterers, the truth of the matter is that those who are poor of pen can find numerous other satisfactory methods for preparing titles.

Most of the larger cities have titling concerns that either type, hand-set or hand-letter wordings on plain and double-exposed backgrounds in 16mm. and 8mm. black-and-white or color, at reasonable prices. In addition, other firms specialize in the sale of lettering equipment which anyone can use with good results.

On top of that, there are plastic, cardboard and metal letters, as well as jigsawed wooden alphabets and even Anagrams, which can be employed in attractive and unusual settings.

If your camera is equipped for taking single-frame exposures, you can secure some interesting effects by animating your titles. For instance, you can lay out your block letters flat on a table surface, set up your camera on a sturdy tripod, expose a foot of film, then stop the motor, raise the first letter to a vertical position, expose two or three frames, lift up the next letter, expose again, and continue until the entire block letter title stands vertically. When projected on the screen, this will show the letters mysteriously and without outside help actually lifting up to a vertical position.

Here is another stunt you may wish to try sometime. Open slightly the top drawer of your end-table, and rest the block letter wording on the drawer edge. Now turn the camera upside-down and photograph the scene as someone, outside of camera range, slowly closes the drawer. The letters apparently fall to the floor. However, when this sequence is processed and returned, cut it out, reverse it end-for-end, and you will show the table-top with drawer slowly open-

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Top: An easily-made opening title using block letters; Second: a shot like this makes an excellent beginning; Below: The big thrill of golf—will it drop into the cup? Bottom: Sound-expert George Culbertson taps the "mike" with a pencil to get effect of club hitting the ball.



There's Camera-Magic In Shooting Snow-time Movies

By JOHN L. HERRMANN, A.S.C., F.R.P.S., F.R.S.A.

Chief Cinematographer, Byrd Antarctic Expedition II

THERE'S photographic magic in fresh-fallen snow! Covering the whole landscape with a clinging white blanket, a snowfall can turn the most prosaic of scenes into pictorial gems. So if you want something really different for your personal-film library, bundle up and shoot yourself a few reels of snowy movies!

By far the best time to shoot (if you can pick your time) is right after a snowfall, while the snow is fresh and clean. And if possible, do your shooting either early or late in the day, when the low-hanging sun gives you long, pictorial shadows to make your compositions more effective, and to break up the

flat, white expanse of snowy ground. Wherever you can, choose a cross-light, such as that shown in the illustration, so you can utilize these long, pictorial shadows to the full.

The chief photographic problems of shooting in the snow are both caused by the intense reflectivity of the white surface. Inevitably the sunlit expanse of a snowy scene throws an immense amount of light into your lens—and into your meter, too. Often it will shoot the meter's needle completely off the scale, leaving you guessing as to how to expose your film. Probably the best technique of exposure-metering in snowy weather is the "artificial highlight" method de-

scribed by P. C. Smethurst in his recent articles in *THE AMERICAN CINEMATOGRAPHER*.

The second problem is that of contrast between the brilliant white snow and the darker people, shadow-areas, and so on. This can be controlled, however, so don't let it deter you. First of all, follow the old photographic rule: expose for the shadows, and let the highlights take care of themselves. Take your meter-reading on that part of the scene which is most important—usually the people, or in some cases, a shaded area rather than the strongly-lit snow. And it is a very good idea to use some sort of filtering which will help reduce the contrast, too. A neutral-density filter (fairly heavy) is excellent if you've nothing in your scene which calls for color-filtering, or if you're using Kodachrome. Otherwise, use a 5N5, which is a combination of an Aero 2 and a .50 Neutral Density, and very extensively used by professionals for controlling contrast in snow-scenes. If you're shooting snow-scenes at high altitudes, by the way, avoid the heavier filters—red ones especially—as they'll only increase contrast, and at high levels the thinner, clearer air often makes even a light filter correct the sky rather heavily.

As it is impossible to make any pictures during an actual blizzard, you can get an excellent substitute by shooting your "snow-storm" scenes in a surface wind, that is, a wind that is drifting the snow along the surface of the ground and up to about three feet in height. That's the way we made the snow-storm scenes you saw in "Little America."

If you're working in really cold regions, you may encounter a problem like the one we faced in the Antarctic—the effect of extreme cold on the camera and its lubricants. It's a good idea to check with the manufacturer and see what is the lowest temperature recommended for the oil with which it is lubricated. If you expect to be shooting in yet lower temperatures, have all the oil removed and then re-lubricate it with special oil that has been tested for extreme low temperatures. The manufacturers can advise you on this; also, the U. S. Weather Bureau has a special oil they use on their instruments in the Polar regions, and which is excellent for cameras.

Next—and this applies to some extent regardless of whether you're in extremely cold regions or just normally cold ones—remember that when you take a camera from a warm room or a heated automobile into the cold outside air, any moisture on camera or lens will freeze and cause the moving parts of the mechanism either to become sluggish, or perhaps not to operate at all. If the moisture is on the lens it will form ice and ruin your exposure.

So it is always well to heat your camera before going out into extreme cold weather, thus baking out the moisture. This can be done over a large-wattage

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If you think *twice* about Negative Films
...you'll think EASTMAN *both* times...

J. E. BRULATOUR, INC.
Fort Lee... Chicago... Hollywood

AMONG THE MOVIE CLUBS

Lecture Series for St. Paul

The St. Paul Amateur Movie Makers Club is offering its members for the first time a comprehensive course in home movies. The course will consist of a series of five lectures to be delivered by experts in different phases of motion picture production. Robert A. Kissack, Jr., Director of Visual Education, will speak on "Subject Matter." Mr. Kissack, with the experience he has gained in directing numerous films and in planning scenarios and production schedules, is in a position to help amateurs improve the general interest of the films they produce. Norman Anderson will cover "Camera Operation." This lecture will include advice and information on focusing, the use of lenses and tripod, placement of camera, the systematizing of camera settings as well as trick photography and the use of accessories. Paul Wendt, Chief Cameraman at the University of Minnesota, will discuss "Lighting and Kodachrome." Topics will include light placement for highlighting, edge lighting, spotlighting, backlighting, the avoidance of unwanted reflections, and the matching of color tones and illumination in succeeding scenes especially as applied to Kodachrome. Russell Hamilton will explain the use of light-meters and impart valuable information on titling. Everett Miller, sound engineer, will endeavor to show how all amateurs can easily provide a sound accompaniment of one type or another to increase the dramatic interest of their films. He will discuss the use of double turntables, interlocking mechanisms and sound tracks. Each talk will be followed by a round-table discussion. This is a series that offers serious-minded amateurs an unusual opportunity to acquire a really comprehensive background of their hobby from qualified exponents and should result in some superior pictures from members of the St. Paul A. M. M. C.

The meeting of October 7 was scheduled to hear Ralph A. Woolsey of the Bureau of Information, Department of Conservation for the State of Minnesota but Mr. Woolsey was called out of town at the last minute and members were fortunate to have instead Kenneth M. Wright, Master Photographer, of the Kenneth M. Wright Studios in St. Paul. Mr. Wright showed some of his interesting films made during hunting and fishing trips and answered questions for the members. The screen fare also included the initial efforts in filming 8mm. Kodachrome of Miss Ione Schlott and Mrs. C. Tippie.

AGNES MARX, Secretary.

Ladies' Night at L. A. 8mm.

Mere man took a back seat at the October meeting of the Los Angeles 8mm. Club when the Club's many lady members took over the running of the entire evening's session, with Secretary



Ladies—real and otherwise—at L. A. 8mm. Club's Ladies' Night. Left, contest-winners Louise Arbogast, Esther Funk and Betty Barney. Right, the visiting "lady" filmers, who probably prefer to hide behind their aliases of Pansy, Lottie, Daisy, Addie, Wilhelmina and Sweetie-pie. Photos by James E. Ridge, Jr.

Betty Barney presiding. Highlight of the meeting was the receipt of a telegram from the Virginia City 9.5mm. Club announcing that a delegation of the latter club's lady members, designated as Pansy, Lottie, Daisy, Addie, Wilhelmina and Sweetie-pie, were coming to join with the L. A. 8's for the evening. After the first concerted rush by the Club's male membership had dispelled the smoke from the visitors' corn-cob pipes and amorous eyes had peeked under poke-bonnets it was found, to everyone's dismay, that the visiting "ladies" were none other than the very male members Armstrong, Cadarette, Loscher, Zeman, Stull and McMurray.

After order had been restored (a difficult matter due to the irrepressible roguishness of "Sweetie-pie" Zeman), the meeting continued with the introduction of such visiting notables as Harold Mendelson, Photographic Editor of the Los Angeles "Times," President Moore of the Metro-Goldwyn-Mayer Studio Camera Club, President Hight and Secretary Shandler of the Los Angeles Cinema Club, and a very special welcome to member John K. Northrop, long absent due to the pressure of building Northrop airplanes for the U.S., Britain, Norway, Holland, etc.

Past-President Al Leitch, who heroically took on himself the chairmanship of the Judging Committee for the Ladies' Contest, announced the winners, which were then projected by an all-feminine projection staff. The winners included Louise Arbogast, First Place, for her "High Spots of a Vacation;" Esther Funk, Second Place, for "Family Portrait;" and Betty Barney, Third Place, for "Just a Blitzkrieg." The evening's program was rounded out by showing other entries in the contest, among which were "Beyond the Valley," by Elizabeth Earl; "Canadian Wild Life," by Margaret Bethouski; "Monuments and National Parks," by Lucille Linn; "North of the Border," by Margaret McGarry; "Tonopah, Nevada," by Gertrude Millar; "Farmer's Market," by Everetta Brandes; "Hawaii and Death Valley," by Elizabeth Ackerman; "Amid Sierra

Heights," by Elizabeth Earl, and "Catalina Island" by Betty Barney. Esther Funk, Elizabeth Earl and Phyllis Zeh served as a special Ladies' Technical Committee.

BETTY BARNEY, Secretary.

British Amateurs Make Defense Films

Despite the war, amateur filmers and amateur film societies in Great Britain appear to be carrying on. Reports from British sources indicate many clubs are continuing their meetings, and in some instances production activities as well. Several have been making instructional films in connection with such wartime duties as Air Raid Precautions, Aircraft Spotting, and the like.

D. C. Doings

At the October meeting of the Washington Society of Amateur Cinematographers the judges awarded first prize to Leo T. Robbins in the 8mm. contest. The subject of Mr. Robbins' film was the National Zoological Park and scenes in and around Washington. Members Bruer, De Janette and Able were runners-up. The outstanding event of the evening was the screening of "A Comedy in Color" by Mr. Milton Pike, the outstanding color artist of the city and the past secretary of the Washington 8mm. club. The subject of Mr. Pike's film concerns itself with dedications and other official acts about the Capitol where clowning has marked the ceremonies. Mr. Pike also screened a picture filmed during a trip through Florida which introduced several novel titling ideas and contained scenes of the oldest city, the largest fort and other points of interest.

During a short business session the president, after thanking certain officers of the club for their untiring efforts, called attention to the dinner to be held on November 22 to which the presidents of the other cinema clubs in the city had been invited and at which would

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TEAMWORK

ALL three Eastman negative films contribute to the over-all excellence of today's productions. Although they specialize in different fields, they join forces readily because of one important attribute enjoyed in common—unvarying high quality. Eastman Kodak Company, Rochester, N. Y.

J. E. BRULATOUR, INC., *Distributors*

Fort Lee

Chicago

Hollywood

PLUS-X

for general studio use

SUPER-XX

when little light is available

BACKGROUND-X

for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS

HERE'S HOW

Color of Film-Base

Do all of the Eastman cine-films have the same color base, so that positive, ordinary pan, Super-X and Super-XX can be mixed together on one reel without showing differences in film quality (other than grain) on the screen?

S. Ballen

All of the films you mention are coated on a celluloid base of the same composition and coloring, so that they may quite successfully be intercut in the same reel without showing noticeable changes in coloration on the screen. Aside from the actual coloring of the film-base, another very important factor in determining the coloring of a black-and-white projected image is the type of developer used in processing the film; some developing agents, like pyro, paraphenylene-diamine, etc., tend to dye the image and give a warm-toned, sometimes even brownish, picture, while others, like metol, give a more blue-black image. All of the Eastman films, however, are developed in the same type of solutions, so here again the color-quality would be uniform. There is a bare possibility that you might detect a slight difference in coloring between films shot today and others shot several years ago. However, the Eastman engineers have been very successful in keeping both their film and its processing uniform, so even this possibility is minimized. However, if you attempt to intercut black-and-white films made by *different* manufacturers, there are almost sure to be noticeable differences in coloration on the screen, as some manufacturers prefer a warm-toned image, and others a blue-black one. Wherever possible, it is always best to keep to one type of film—or at least film of one manufacture—from the start of a picture to the finish.

Matched Lens-quality

Are the differences in lens-correction between the various lenses of different manufacturers so great that if one uses four different lenses, each made by a different manufacturer (i.e., Eastman, Taylor-Hobson-Cooke, Zeiss, Hugo Meyer, etc.) on a turret camera, a perceptible difference in picture-quality would appear? In other words, should lenses be matched?

S. Ballen

The answer to this question depends upon the type of use to which the lenses are to be put. To meet the exacting demands of major-studio professional camerawork, lenses should most certainly be carefully matched. For example, certain makes of lenses have the reputation of having a pseudo-soft quality which, while giving an actually sharp image, is very flattering to women players. If you intercut a shot made with one of these lenses with a shot made of the same player using a crisper-cutting objective, a professional cinematographer would notice a definite differ-

ence in quality on the screen. Some super-critical experts, such as Joseph Walker, A.S.C., can detect differences—unnoticeable to most observers—between individual lenses of the same design, focal length and manufacture.

However, for most amateur use and even for most 16mm. commercial filming, making such distinctions as these would be splitting hairs much too fine. So in general we can say that if you use four equally modern lenses from four such top-flight lens-makers as you name, the results on the screen should be quite adequately uniform.

Certain exceptions must of course be made. If some of the lenses are much older than others, and hence of earlier design, there may be definite differences. For example, lenses made before the advent of Kodachrome and its predecessor, Kodacolor made extreme color-correction so important in substandard cinematography may very likely not be so well color corrected as newer lenses of the same make. The same is true of lenses made before panchromatic film was available for 16mm. use. There is also always the possibility that a lens, while looking outwardly all right, may have suffered some optical damage in its long trip from factory to user, while another lens, apparently old and battered, may be optically perfect. And in anything connected with lenses there is also a definite psychological aspect: two different people may see (or think they see) entirely different qualities in any lens or lenses. We've known some top Kodachrome experts who swear the only lens through which Kodachrome should be made is the Kodak Anastigmat—and others, equally capable, who go to great lengths always to use Cookes for the same purpose. And we've seen intercut Kodachrome results made with both types, which matched so closely only an expert could tell which was which! The safest rule to follow in judging any lens is: make a test, and if the result conforms to your idea of what good picture-quality is, the lens is all right for your use—no matter what anyone else may say.

Color Correction

Would your answer to the above question by any different for black-and-white and for color? If color-correction relates to definition only, and does not change the color transmitted, then why do so many photographers feel that color-correction is more important for shooting color than for black-and-white?

S. Ballen

Photographers who feel that color-correction is more important in shooting color than in shooting black-and-white are definitely mistaken. It shows up more obviously in shooting Kodachrome, Technicolor, or the like, but it is quite as important in black-and-white. Professional cinematographers found that

For many years one of the most important services THE AMERICAN CINEMATOGRAPHER has performed for its readers has been the answering of technical questions about all phases of amateur and professional movie-making. These questions are usually answered by individual letters, to permit going into the necessary detail. However, in response to many requests, we also publish, in abridged form, some of these questions and their answers which we believe may be of interest to other readers. THE EDITOR.

out many years ago, at the time panchromatic film and incandescent lighting were displacing the previous ortho film and arc lighting. Many of them, when they changed to the newer film and lighting, suddenly found their black-and-white pictures were not as sharp as they had been accustomed to getting. When the optical experts were called in, they found the cause in lenses that were not color-corrected. And when properly color-corrected lenses were used, the results with pan film and inkie lighting at once improved.

The reason is that with the older lenses, light-rays of different colors were not brought to a focus in the same plane. The blue part of the image might focus at one point, the yellow at another, and the red at still a third point. Even though this displacement might be measured in very small fractions of an inch, it was there. As long as the image was made on the old ortho film, which was sensitive largely to blue, and hardly affected by yellow and red, color-correction wasn't important. But when panchromatic film—sensitive to all colors—came in, and with it the more yellow-orange Mazda light, the situation changed. The blue parts of the image might still be sharp: but the yellow, red, etc., portions would be blurred. This blurring might be only microscopic, but it was enough to debase the optical quality of the image. When color-corrected lenses were used, which brought all the colors to a focus at more nearly the same plane, the image naturally became sharper and more pleasing.

This is just as true today as it was fifteen years ago, and holds good whether you are shooting on 35mm., 16mm. or 8mm. film. As long as you are making your picture on color-blind ortho film, color-correction is not too vitally important: but as soon as you put panchromatic film behind your lens, you'll get the best results if you use a color-corrected lens. And the more perfect the color-correction of your lens is, the better and sharper will your results be, either in black-and-white or in color. Incidentally, don't overlook the fact that this applies equally to projecting a color film, so that for best results in Kodachrome you should use a color-corrected lens on your camera and a color-corrected lens on your projector, too.



SPEED

IS IMPORTANT

... *but*, in panchromatic movie film, there are many characteristics besides speed which are essential to good screen results. Such as these basic qualities of Ciné-Kodak Film—

GRAIN Scientific manufacturing and processing of Ciné-Kodak Super-X and Super-XX "Pan" Film result in minimum film grain consistent with high speed—and maximum screen magnification of clear, clean-cut images.

PANCHROMATISM The wide-band panchromatic sensitivity of Ciné-Kodak Film produces the most natural black-and-white rendering of color—and truest response to filter use.

BRILLIANCE Contrast, latitude, resolving power—these are the qualities in Ciné-Kodak Film that enable a good projector to produce the proper snap and sparkle on the screen.

CORRECTION The exclusive automatic corrective processing given to Ciné-Kodak Panchromatic Films in Eastman laboratories compensates for all normal exposure errors, assures you uniformly satisfactory results throughout the widest range of light conditions.

VALUE The uniform reliability and superior qualities of Ciné-Kodak Films, in terms of

movies made and saved, are factors beyond price. With processing included in the original attractive prices, Ciné-Kodak Super-X and Super-XX Films make for true picture economy.

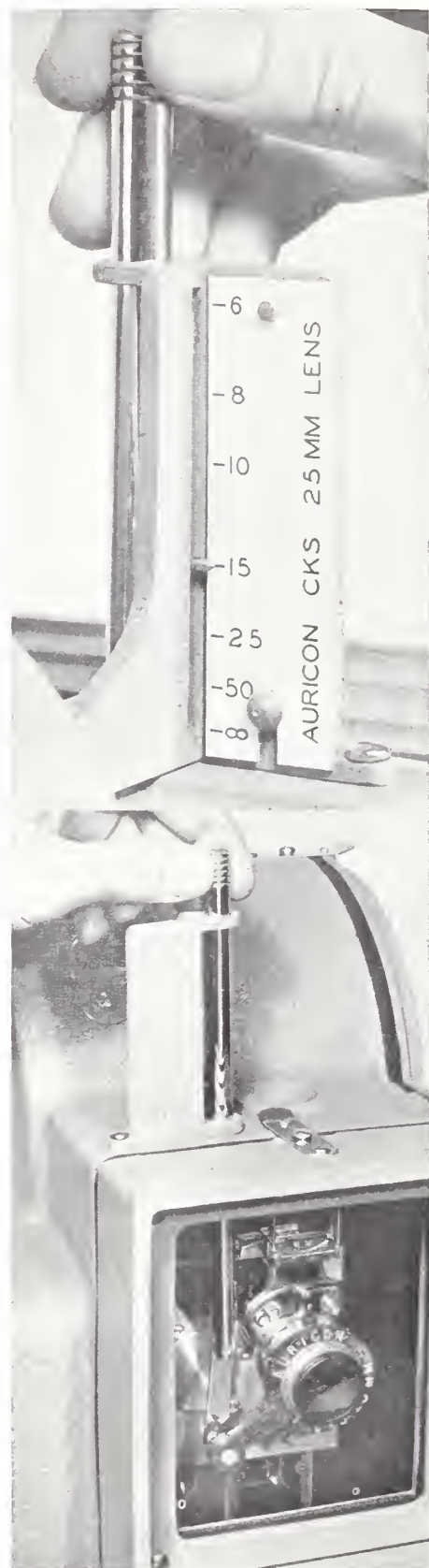
AND SPEED, OF COURSE All possible speed with the least possible grain—this you can always expect in Ciné-Kodak Super-X and Super-XX "Pan."

EASTMAN KODAK COMPANY, Rochester, N. Y.



Ciné-Kodak Super-X Panchromatic Film: 8-mm. rolls—\$2.40, 8-mm. magazines—\$2.70; 50-foot 16-mm. rolls—\$3.45, 100-foot rolls—\$6.40, 16-mm. magazines—\$3.75. **Ciné-Kodak Super-XX "Pan":** 50-foot 16-mm. rolls—\$4.00, 100-foot rolls—\$7.20, 16-mm. magazines—\$4.30. All prices include processing.

...THE SHOWCASE...



"Follow Focus" for Auricon Blimp

A simple and practical follow focus device is now available for the Auricon

CKS Camera Blimp. This new accessory is easily mounted on the blimp as a screwdriver is the only tool required.

With the Cine-Kodak Special Camera enclosed in the soundproof blimp during the shooting of a talking picture scene, movement of the plunger-rod vertically up and down will focus the lens without opening the blimp.

A rubber grommet at one end of the connecting link between the lens-ring arm and the plunger-rod prevents camera vibration from reaching the outside case of the blimp.

Interchangeable cards, supplied with the focusing device, allow calibration of any individual lens, or a follow-focus card can be made up for the particular scene being photographed. If this is done, the card will read "table, doorway, chair," etc. Another method is to mark the follow-focus card to match chalk marks on the floor which show camera positions used during the scene.

Lens-rings carrying the necessary lever-arm are available for the 15mm. (wide angle) lens, the 25mm. (one inch) lens, the 50mm. (two inch) lens, and the 63mm. (two and a half inch) lens. When mounted on the lens, a pin carried on the lever arm of the lens-ring engages with the connecting link of the plunger-rod. Lenses may be instantly interchanged while the follow-focus device is in place. The lens rings clamp over the regular focusing ring of the lens. No alteration to camera or lenses is necessary when they are used with the Auricon Blimp and follow-focus.

Fastest Twin-8 Film

Twin-8 Triple-S Pan Reversible—the fastest film yet available for users of double-run 8mm. cameras—is announced this month by Agfa Ansco. Three to four times faster than twin-8 Hypan, the new film should be welcomed by 8mm. filmers for the increased subject-range it provides. While the manufacturers do not give exact Weston speed ratings for their new 8mm. product, they state that the speed of this film is the same as that of the firm's 16mm. Triple-S Pan, which is rated in the Weston speed-chart as 100-125 to daylight, and 80 to Mazda light. With film of this speed available, 8mm. users should be able to accomplish many of the shots heretofore considered restricted to 16mm. and its higher-speed films.

In addition to balanced panchromatic color-sensitivity, the new material is stated to provide remarkably fine grain and brilliant gradation, both of which are essential to really satisfactory 8mm. camerawork. Protection against halation is afforded by an exclusive brown silver-coating between the emulsion and the base (removed during processing). A special lavender-tint base aids in giving the film excellent projection quality.

The emulsion offers surprisingly wide latitude to compensate for inadvertent misjudgment in exposure, as well as good resolving power to insure clear, sharp pictures.

Made by Agfa Ansco in Binghamton, New York, Twin-8 Triple-S Pan Reversible is supplied in the usual 25-foot camera spools (50 feet projection-length) which may be processed at any Agfa Ansco laboratory. The price is \$2.65 per roll, including excise tax.

Slidetitles For Minislides

Film titling service is no longer confined to movie-makers, according to an announcement just received from Bell & Howell. "Good titles will add just as much interest to a show of projected still pictures," says B&H, "as they do to a movie show, and we are now prepared to furnish our entire selection of 79 Title-Craft backgrounds on Slidetitles."

The announcement states further that the Slidetitles, furnished on 35mm. film in 2"x2" standard cardboard mounts, are available in two two-tone combinations for use with color transparencies: green with gold overtones and gold letters or brown with gold overtones and gold letters. Title-Craft's stock of backgrounds include two types, photographic and poster, and is said to contain subjects suitable for every season and a wide variety of occasions. Prices on Title-Craft Slidetitles on poster backgrounds begin at 25c per title, on photographic backgrounds at 35c per title.

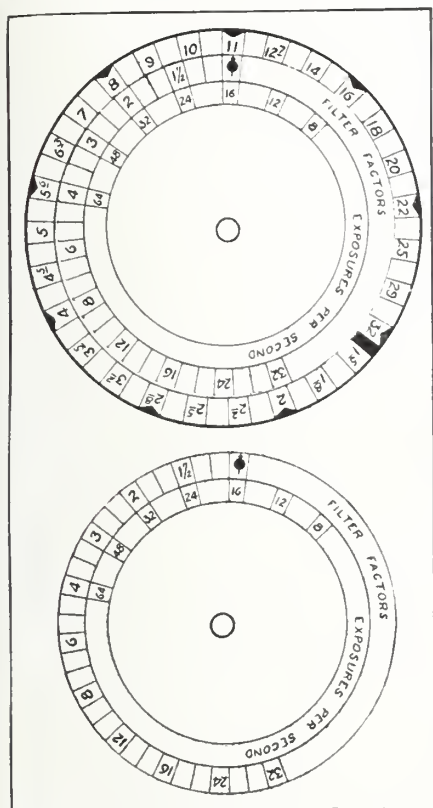
Film Source List

The Victor Animatograph Corporation, Davenport, Iowa, manufacturers of 16mm. motion picture cameras and projectors, announce the release of their Eighth Edition Victor Directory of 16mm. Film Sources. Owners of 16mm. projectors will relish this news as this source directory actually tells where to send for films on the subjects in which they are interested. There are over 600 sources listed therein and 225 subjects covered in silent and sound films.

In the Educational Section will be found pages of information devoted to the film libraries and rental service available from universities, colleges and departments of education in each state. The men and women directing the activity of these libraries discuss the utilization of the motion picture in education of information pertaining to the use of films in the classrooms, in churches, in and prophesy the future growth and development of this medium of instruction, based on their experiences and observations in the field. County and City School Cooperative Film Libraries, as well as independently-owned City School

(Continued on Page 550)

The IDEA EXCHANGE



Filter Factor Calculator

Your exposure-meter will tell you what the correct exposure for a scene is as long as conditions are normal—16-frame camera-speed, no filters, and so on. But you usually have to figure out for yourself any changes from this normal procedure. Here's a handy little calculator I made some time ago which greatly simplifies this problem. It can be used with any camera and any film.

The sketch shows the basic outline of the calculator. You can make an accurate copy of the two discs shown, or even clip out the sketch, and cement the paper onto two discs of heavier cardboard, celluloid, or the like. Then cut out the two discs, and in their centers punch accurate holes. Fasten the two together by these center-holes, one on top of the other, so that the smaller disc overlaps the larger one as shown in the upper sketch, and can be revolved freely. An office paper-rivet is as good a way as any to fasten the discs together.

To use, place the little black pointer on the upper disc opposite whatever f:stop indication on the lower disc your meter gives as the correct normal exposure. Then—the correct stop for any filter-factor or camera-speed will appear opposite that factor or camera-speed. If you have both filter and camera-speed changes to consider, first find one; then place the indicating pointer at this reading, and find the other in the usual way.

E. WALKER.

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SQUARE TUBING IN BOTH THE CENTER ROD OF TRIPOD AND THE EXTENSION SUPPORT

Square tubing in both assures positive alignment of the screen surface and prevents twisting.

Solid Square tubing (instead of a thin metal strip) in the extension support gives unequalled rigidity and strength. It makes all sizes of screens from 30" x 40" up to and including 52" x 72" hang perfectly, without sag, wobble, or possibility of the extension rod bending, even when raised to the highest position. No other screen has this essential feature. It is an exclusive, patented Da-Lite improvement.

AND THESE OTHER



(Reg. U. S. Pat. Off.)

FEATURES

SMOOTHER OPERATION—The extension rod fits snugly inside the center rod tubing of the tripod, yet it moves freely without risk of injury to the fingers in its operation. The Challenger is the only screen that can be adjusted in height merely by releasing a spring latch and raising extension rod.

POSITIVE SCREEN HEIGHT—When the Challenger is raised to desired height a spring latch pushes plunger into a drilled hole in the extension rod and locks it firmly in position. There is no friction lever to slip. No thumb screws to tighten.

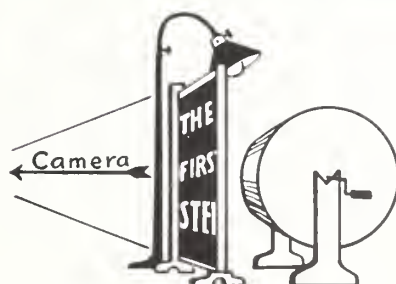
STURDIER CONSTRUCTION—Steel stampings only are used instead of castings (which are liable to break.) The handle brackets encompass square tubing instead of being attached to the thin metal part of the case.

GENUINE DA-LITE GLASS-BEADED SURFACE—This fabric, famous for its light-reflective qualities, is recommended by all the leading projector manufacturers and is chosen by leading industrial organizations for their sales and training films, to insure the brightest and clearest projection.

GREATER VALUE—Volume production and efficient manufacturing methods, perfected through 32 years of experience, account for Da-Lite's greater values. You can get a Da-Lite Screen for actually less than your second choice screen would cost. See Da-Lite screens at your dealer's! Write Dept. 10 AC. for literature!

DA-LITE SCREEN COMPANY, Inc.

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Tricky Title

The other day my wife came home with a big package of dusting-powder

which was packed in drum-shaped box with narrow mirror-strips mounted lengthwise of the drum. I appropriated it to solve a titling problem in my current picture. The set-up I used is shown in the sketch. The title is made up with clear letters on an opaque background. (A photographic negative made by copying black letters on a white field is excellent for this, or you can letter your own on a sheet of glass). Back of this I mounted that mirrored drum. Shooting the title, I lit the drum with a Photoflood (a Dinky spotlight, if you have one, would be still better) and revolved the drum as I shot. This pro-

(Continued on Page 548)

HOME MOVIES PREVIEWS

WHITE WATER

Scenic-documentary, 350 feet 16mm.
Kodachrome.

Filmed by C. A. Willis.

Once in a while we have the pleasure of screening films of really exceptional quality. "White Water" is such a film: it would be a top prize winner in any competition. Despite the fact that its subject-matter is confined to trees, rocks, and snowy white waterfalls, it is one of the extremely few films we've

seen which brings out the full richness of the Kodachrome process. The coloring is superb, made so by almost professionally perfect lighting and exposure. It is one of the most perfectly-exposed reels of Kodachrome we've screened; there are only a scant few scenes in which the highly reflective white water seems to have fooled the maker, causing him to err slightly on the side of overexposure.

From an audience-interest viewpoint, the film stands up remarkably, though it hews strictly to the line of being a study of Yosemite's picturesque waterfalls, with no intrusion of conventional "human-interest". Handled as well as this

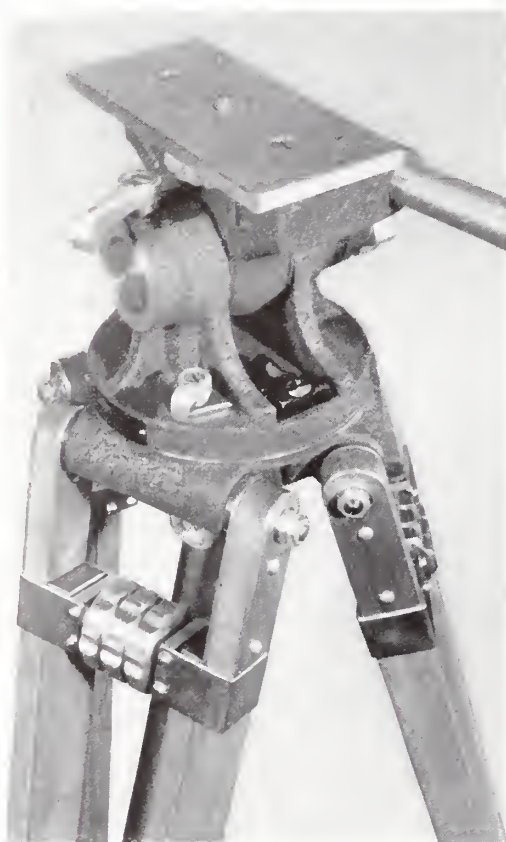
film is, it doesn't need any such artificial aid.

The maker asks for suggestions for improving his picture. We can offer only a few, and they are small ones. In the introductory sequence, it would get the picture started more smoothly if in the transitional shots from trickle to rivulet to river the streams were all flowing the same way across the screen. Also, following the title which indicates that sometimes the river-bottom suddenly drops away, a shot downstream from the top of a high waterfall—Vernal, for instance—seems indicated. The title telling how long it takes water to fall from top to bottom of one fall (Yosemite, if we remember rightly) would be strengthened if followed by a telephoto shot panning down with the slow-falling water. It would be a very interesting experiment, by the way, to see if by double-exposure one could not superimpose a stop-watch on this shot, to prove the point that water requires 10 seconds for the drop. Similarly, after the title telling how the wind sometimes curves Bridal Veil falls into a picturesque bow, it would certainly be effective if a shot of that fall, wind-blown into an almost crescent-shaped arc, as we've sometimes seen it, could be used. We might suggest, too, that a slightly less ornate title background—one perhaps more in keeping with the subject and the coloration of the other scenes—might be desirable.

But in general, we hope Mr. Willis won't try to do too much "improving" on his film, for it's likely to spoil an almost perfect picture!

"PROFESSIONAL Jr." TRIPOD

by CAMERA EQUIPMENT COMPANY

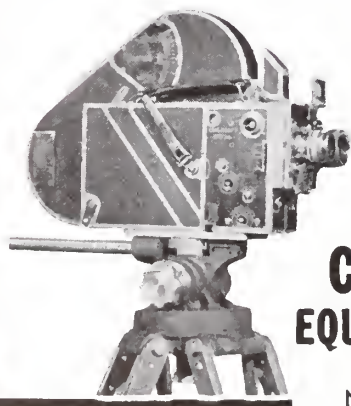


The "Professional Jr." tripod is the most rigid on the market and has many features which are usually found only in regular heavy professional models. For example, it has a wide flanged base to assure steady panning, super smooth action of the friction type tilt head and a pin and trunnion of generous size to minimize the effects of wear and make possible smooth tilt shots.

A sturdy handle screws into the top to control the movements, but for carrying, is removed and screwed into a socket in the center of the base. Wooden legs locked by a quick release knurled knob can be adjusted for height by a twist of the knob set between each leg. The extended height of the tripod is 86½", low height 46". Top plate can be set for 16mm Eastman Cine Special with or without motor as well as the Eyemo 35mm camera with or without motor and 400 ft. magazine. It will also take the DeVry 35mm camera. The tripod legs are reinforced to the head to assure steadiness at all positions.

**Tripod Head Unconditionally
Guaranteed 5 Years.**

Write for Literature.



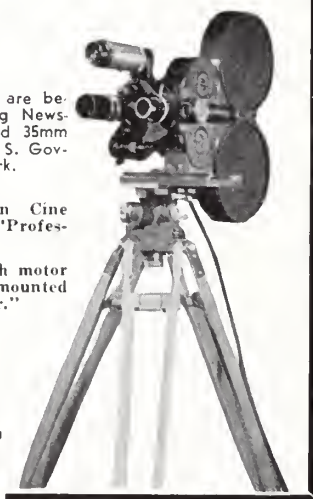
"Professional Jr." tripods are being used by many leading News-reel companies, 16mm and 35mm Sound Studios and the U. S. Government for important work.

Left: 16mm Eastman Cine Special mounted on "Professional Jr."

Right: 35mm Eyemo with motor and 400 ft. magazines mounted on "Professional Jr."

**CAMERA
EQUIPMENT CO.**

1600 Broadway
New York, N. Y.



JACK FROST'S RIVAL, INC.

Semi-scenario film, 250 feet 16mm.,
black-and-white and color.

Filmed by Stanley and Maryjane Bean.

Here is a film which began with a clever little idea, but which hasn't quite jelled in the carrying-out. Based on the premise of a moviemaker who is unsatisfied with his drab black-and-white pictures, and calls in "Jack Frost's Rival, Inc." (portrayed, we suspect, by the young son of the family), the film begins naturally in black-and-white, and then switches to color.

The weak spot is in the handling of this switch, especially as after the first few scenes of color, the film goes back for a while to monochrome, before finishing in color. We'd suggest it would be stronger to stay with color once the switch has been made. As a suggestion, we'd like to have seen the young "painter" pouring his colors into a carton of Kodachrome, and handing it to the filmer with the advice that this would help him. Then a series of black-and-white shots of the moviemaker at work, followed by a return to the projection-room sequence, with a "wipe" to a concluding series of color-shots which would show in color the scenes we'd just seen (in monochrome) the camerist shooting, and possibly also repeat in Kodachrome some of the black-and-white shots used at the start, with which the filmer had been originally disappointed.

Norwood Meter

(Continued from Page 513)

gave the meter a try-out. The schedule was seven shooting days, which meant that we had to average a good deal more than 60 set-ups per day. That meant that was no time to fiddle with anything complicated between takes. At the same time, if you depended on the meter, you had to do it whole-heartedly, for on a short-schedule picture there's no such thing as making two takes of a scene just because you aren't sure whether your judgement or your meter is right. And retakes aren't exactly popular, either.

"I depended completely on the meter. The negative went through the usual processing of the Consolidated laboratory, and was given normal treatment in every way. They used the test system: and where their normal developing-time for that type of film is 9 minutes, every inch of my negative on that picture went through between 8 minutes 45 seconds and 9 minutes 15 seconds! And we had about everything possible in the picture—studio interiors, location scenes at Big Bear and Sonora, and Infra-Red night-effects, to say nothing of a couple of days' location work which had to be shot under distinctly unfavorable light in cloudy weather. The meter certainly proved its worth to me on that assignment!

"In addition to using the meter conventionally, I found it possible to use it in several ways in which it proved a great time and trouble saver. For example, often on short-schedule pictures the budget just doesn't permit the use of stand-ins, and at the same time you hate to make your principals stand in for themselves under the hot lights. I found that I could often light my scene using only the meter—and when the players stepped into place, my lighting was perfect.

"In doing this, I would take individual meter-readings of the key parts of the set—back-wall, important high-lights and shadows, and so on, thereafter balancing the set-lighting by eye to these known standards. Lighting for the people, I simply used the meter as a stand-in. Holding the meter's dome-shaped pick-up in the place the actor would occupy, I would check each component of the lighting—key-light, filler, back-light, kicker, etc.—with an individual meter-reading. If these were right to fit into my normal balance, I'd then take a meter-reading of my whole lighting, and set the lens accordingly. I seldom had to make the slightest change in my modelling, and it proved a great time-saver, lighting the scene without having to have the people in it.

"While we were on location, we struck some really tricky weather when a cloudy spell set in. One minute the sun would be under a cloud; the next it would be shining rather brightly. If we were to make our schedule, we had to shoot anyway, in spite of the weather. So I placed the meter on top of the camera's finder, in a position where its pick-up received the same sort of light that the actors

DeVRY PRECISION 35 MM. CAMERAS



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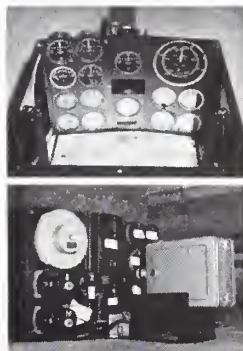
Automatic in action, holds 100 feet of film, takes pictures for screens 20 ft. across, has accurate footage meter, view-finders, including direct-on-the-film finder for clear titling, close-ups and trick work. Can be hand cranked for trick speed or slow action shots. Mechanism will not freeze, bind, break, cause film buckle or become overstrained. Simple and quick in operation.

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ing Are Eliminated

As an aid to National Defense and to Industry, DeVry engineers have devised a SPECIAL 35mm. CAMERA adaptable for both FLIGHT-TEST EQUIPMENT and as a time and money saving INDUSTRIAL TOOL.

This SPECIAL 35MM. CAMERA is now in use by Douglas and Boeing Aircraft, at the U. S. Army's Wright Field Air Base, and by such industrial firms as Carnegie-Illinois Steel, Sheffield Steel, Allan Wood Steel Co., Youngstown Sheet and Tube Co., etc. Full details on request.



DeVRY

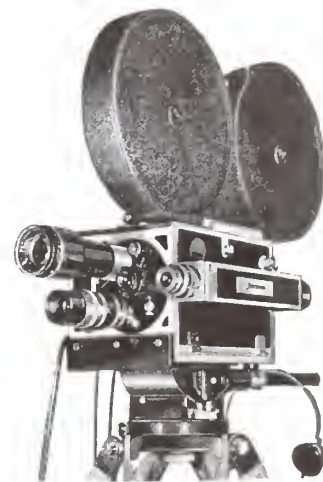
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35MM. SOUND CAMERAS

Single system for recording picture and sound at same time. Precision built throughout of finest materials. All modern refinements and conveniences. Superb results assured.

Write for Full Details

did. Then, right while we were making the shot, by assistant could keep one eye on the meter and the other on the lens aperture setting, and 'follow focus' on exposure, opening up or stopping down as the light grew weaker or stronger. While I knew that the idea ought to work in theory, I was very pleasantly surprised to see how smoothly it worked out in practice—a tribute to a very capable assistant and an efficient, sensitive meter.

"For that matter, I found it so handy that I'm planning to rig up a holder for the meter atop the matte-box, so that we can follow-focus on exposure in the same way when in the future we run into the problem of making long pans

that carry our actors from sun to shade, or through a half-circle change in lighting.

"In making filtered Infra-Red night-effect shots, the meter proved surprisingly accurate, too, even though the manufacturers make no claim for any unusual infra-red sensitivity. So far, they haven't worked out an adapting plate for Infra-Red film: but I got excellent results using the plate designed for the speed-factor of the old DuPont Type I, and then making the usual 12-times compensation I've been accustomed to making for these 'black-light' shots.

"To summarize my impressions, I'd say this new meter isn't going to make any social distinctions. The men who

are filming the big major-studio 'A' productions seem to be finding it useful—but on this little seven-day 'quickie' I found it just as invaluable as they did; maybe even more so. For years we've all of us been asking for a really precision-built meter for professional use; and now it looks very much as though we have it at last!" **END.**

Corrective Make-up

(Continued from Page 514)

but color as well with which to work. Like a corrective monochrome make-up, the corrective make-up for color must be handled with precision, but if it is so applied, it can prove its worth even more quickly.

In our work, we have always had men who were followers, rather than leaders. We have make-up men who apply shadowed make-up simply because they have heard that other members of their profession use it—men who seem to approach their work without any clear understanding of the *how* and *why* of what they are attempting to do. In the same way, we have some cinematographers who prefer to work according to time-honored formula, and who, either from fear of something they don't know, or from mere reluctance to change, seem instinctively to oppose anything new and different. For men of these types, I would certainly advise strongly against any attempt to employ corrective make-ups, for the results could only be disappointing. But for the more progressive artists of our two professions, I am certain that corrective make-ups, applied and photographed with precision and a real appreciation of what can be done by these means, and above all with the genuine understanding and cooperation which experience has proven can exist between equally capable make-up artists and cinematographers, can be a valuable aid to our joint goal of putting today's stars on the screen at their glamorous best, and with the greatest ease and efficiency. I sincerely hope that this necessarily brief discussion of the make-up artist's aims in using corrective make-up will aid in bringing about that better understanding between the progressive members of the two crafts. **END.**

Barnstormers

(Continued From Page 515)

be there on the dot, that . . . well," Bob was out of breath. ". . . it's your package to worry about the technical and photographic end."

"Guess you're right," I agree. "Then comes the day we cameramen hit town."

"What'ya mean . . . cameramen . . . ?" Bob snorted. "You mean THE camera-MAN . . . and then the things that can happen that first day. A beautiful parade all lined up and it rains."

"So we shoot in the rain," I mutter disgustedly at the thought of ruining good film.

Bob goes on paying no attention to

me. "A perfect shooting schedule made out . . . two hours for a hundred-foot commercial with interiors and exteriors . . . we arrive all ready to roll it in the can . . . but the boss is out of town and we can't shoot it without him because he bought the commercial just to see himself in color in the first place . . ."

"And what does that do to the shooting schedule," I grin.

"I don't have a shooting schedule anymore and for the duration of the picture," Bob moans, then adds. "Or at least not an air-tight one." "I'll say it's not air-tight," I grimace. "And you're not alone with troubles about this time. Don't forget that every cameraman has to break in a new assistant in every town. Teach him how to set up lights ready for placement, roll the cable to the fuse box without kinking and causing breaks in the line, to keep an eye on the cameraman while shooting in order to read hand gestures in controlling the lights . . ."

Bob laughs and breaks in. "And when you think he is catching on he quits because he isn't used to working twenty hours a day and you have to find another assistant in the middle of shooting—and still keep on your shooting schedule for another town is waiting for you cameramen four or five days hence."

I attempt a grin. "But that isn't the biggest cornerstone," I said. "To me the art, if you can call it that in this business, is to tie all the commercials together so that you still have a story that resembles the original scenario."

Bob shakes his head in agreement. "Right," he said. "When a fellow is shooting a scene in Gabby's Hardware store, it's pretty hard to convince him that there is any sense to holding a slate in front of a camera with some chalk scratching on the surface and that the business we shoot in his place of business could have any similarity to a story."

"You said it," I chime in. "If we shoot the commercial last on the shooting schedule he still thinks he'll be the last thing in the picture."

"And how about going into a location and finding the entire store from front door to storeroom spic and span; every box in place, mirrors shining, and every employee in new uniform. The boss comes up, waves his hand back and over his entire establishment and says: 'OK, bub, shoot away. We're ready' . . . and he only purchased twenty-five feet of film and all we can possibly shoot and keep to the scenario is small given areas with our own local cast," Bob said.

We both say nothing for a bit. Thoughts crowd around, things happen, and you wonder. I attempt another grin. "Seems funny to talk about it but it's a case for aspirin on location," I said. "Everything consistently happens to kick production in the pants. If we're on time for a commercial you can bet the non-paid cast won't show up. Mr. Big Hunk, for whom our leading man works, refuses to let the star off. He's mad because we didn't give him an

exclusive on his grocery store. Therefore he aims to throw bolts and nuts into the machinery . . . and we shoot dairies with water running about like a broken Boulder Dam and our wet cables short and we all get a slug of electricity . . . and we montage neons in Milwaukee with the temperature at twenty below zero and the camera freezes and we freeze and we all end up with the sneezes . . ."

Bob waxes into the scene. ". . . and we have to shoot the big love-scene in a tavern because there is no other place available and then the leading team proceed to become giggly on laughing water . . . and when the picture is finally in the can, processed and returned, you stay up all night editing . . . cutting . . . editing."

"Yeah," I remind. "Remember south of here when you had the flu. The picture had to be ready for the next afternoon's matinee, so a couple of the committee kept you going all night. One trucked up hot coffee, the other shoved medicine in the nostrils with one hand and held Kleenex to the nose with the other . . ."

We both fell silent. The clock was shoving four A.M. to the rear and we still had to be on location at eight. Four hours away. Bob had dropped into a steady in-and-out wheeze and I wasn't far from the same portals. But I tried to compare our pasture with the skilled craftsman and the glittering walls of Hollywood's industry. Each has his or their own major obstacles to surmount. That's what makes motion pictures, amateur or professional, the greatest art in the world. Always the unknown ahead; always striving to surpass the last effort; always hoping for the big scene, and always disappointed at gaining so little of what you thought you were getting in it when you do shoot it. Bob has been in Hollywood; so have I. So we compare the two and find little difference in headaches—but so vast a difference in the ultimate results. Bob still slept, but I was groping around for a simile; something with which a chap could make a comparison with the motion picture craft. Then I thought of a passage I had read somewhere and which was supposed to have been uttered by an old Polynesian philosopher. He was talking about life, though; and I am thinking about the world of make-believe . . . make-believe . . . Life . . . there isn't much difference. Let's see, what did he say . . . ?

Something like this:

"The only answer to life is life. You are the mathematician—write it down and everything is solved. That is death but it shouldn't concern you . . ."

Well, amateur, professional or semi-pro, we strive for the same goal and that's good enough life for anyone . . . **END.**

Business Film Scripts

(Continued from Page 516)

film in a way that answers those questions for the audience.

In doing this, the basic cinema technique of "establishing" long-shot, medium-shot and then close-up should always be observed. Too often in industrial films we see people doing things—in long- or medium-shots—and instinctively want the more detailed exposition of the action or process that a close-up affords—and the close-up isn't there. Put this definite progression into your script, and see to it, too, that it is followed in the shooting. If when the film is assembled, the closer shots seem repetitious—to an *inexpert preview audience*—they can always be eliminated. But they can't always be shot later when it is found they're needed.

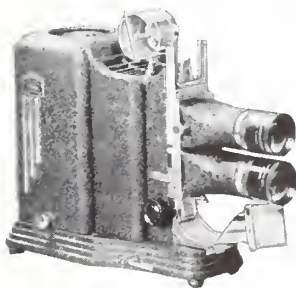
Script-writer, director and cinematographer should combine their efforts to add visual imagination to their joint presentation of factory sequences. The cine-camera can be used in such sequences in a manner similar to that which has in recent years won Salon prominence for many industrial still-camera artists specializing in what I believe is called "industrial photographic impressionism." In almost every factor there are abundant subjects which recommend themselves photographically because of design, movement, disposition of mass, detail, and so on. Sometimes the spokes of a wheel, sometimes the pattern of building detail, the subjects of such shots are generally a more interesting part of a less interesting whole, and they can be composed with a feeling for eye-arresting composition.

Coupled with the flexibility of motion, such a photographic technique adapted to industrial movies can do much to add "oomph" by turning the usual into the unusual, without in any way lessening the truthfulness of the facts presented.

A good set of rules for building an effective factory sequence in a general audience picture is to begin with establishing long-shots, then work progressively closer to full close-ups of out-of-the-ordinary operations, making generous use of angle-shots and a very liberal sprinkling of close-ups of the always expressive hands of workmen. Edit these for an increasingly quick tempo, if possible coordinated with rhythmic music in the score. And keep away from highly technical terminology in the narration.

Stories are where you choose to find them. There is a lot of what the publicity-men call "romance" in the most commonplace things of life—the way foods find their way to your table—furniture to your room—the gasoline to your car—the pencil to your desk—the very cup and saucer to hold your breakfast coffee. The most simple, inexpensive article or ingredient has a story that is interesting, not always necessarily because of the way that thing is made, but because its evolution from idea to actuality concerns the lives of people; interesting because those people are different from ourselves during the time they are concerned in the evolution of that product, yet somehow close to us because that product eventually reaches us, for our personal use.

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Dig out all these interesting facts about the business you're filming—facts about the personnel, as well as the methods used; the historic origins of the business or its product as, for example, the way our grandfathers called the tomato a "love apple" and considered it poisonous, while today it is a staple of vitamin-filled scientific diet.

Sometimes these incidental background facts may seem to the executive for whom you are making the picture to be very far-removed from proving his contention that his product is the best. But they aren't. We are all curious about what the other fellow does. Shots of men and women at work foster good-will by breaking down the feeling of impersonal remoteness between customer and company, and puts in its place a humanizing feeling that they are all "just folks" from the President down, doing a bang-up job on behalf of the audience and, more than incidentally today, contributing not a little to the national economic welfare by providing employment, paying taxes, payrolls, etc., and being good American citizens in every way.

Finally, make every effort to save the big sales plug (if there's got to be one!) till the end of the picture. And then make it brief. This makes for a better picture and, oddly enough, a stronger sales value because by that time the audience is more or less relaxed in its enjoyment of the picture, so that the plug catches them unawares and with

the minimum of sales resistance. In this way the ends of both sponsor and producer are best served. And when this is done, and you've delivered your plug, obey the rules: retire to a neutral corner and bow out quickly and with whatever photographic artistry your skill and your subject offer, for your evening's work will be over.—END.

Glamorizing the Pea

(Continued from Page 518)

of machinery, in close-up. The most adequate lighting was provided by Victor No. 4 Photoflood lamps, with frosted aluminum bowls. A few spotlights were used at times to equalize the lighting—these were of the Reflector-type, 1500-Watt globe, with booster transformer for photoflood color-temperature and brilliance. Setting up such additional lighting apparatus for 16mm. work was complicated enough at times, but it was child's play compared to the manipulation of the heavy D-C powered arc equipment that would have been necessary for shooting in 35mm. color.

In photographing the interior of the plant, Dave Butler, Cameraman, had to resort to some rather ingenious methods. Platforms had to be hung from the ceiling, or suspended from ventilating pipes, and at one time, Butler almost had to stand on his head to get the particular shot he wanted.

A particularly difficult shot was that

taken of the inside of a huge, revolving drum, 60 feet deep, constructed of steel mesh. Chief problem was that of properly lighting the interior, and preventing undue reflection from opposite sides while the cylinder whirled rapidly. Lamps hung from the rafters provided light which shone through the sides; a Photoflood lamp hung at each end provided just the proper balance to carry the depth of focus. Such a shot could never have been made in the cramped space available by the larger, professional 35mm. camera.

Here, again, the flexibility of 16mm. equipment proved its distinct advantage both in economy and effectiveness. With the use of a wide-angle lens on the 16mm. camera, Dave Butler obtained a depth of focus embracing everything from three to 75 feet. The Hyper-Cinor attachment on the regular 1-inch lens gave him the equivalent of 12½m. objective.

Another particularly interesting feature of "Pick of the Pod" is the nature of sound-on-film work. The picture was shot double-system, with discs cut simultaneously for playback and protection. Re-recording was made after the final job had been edited and synchronized, as in Hollywood practice. High quality acetate and sound film were used for printing. All sound-film is direct positive, variable area sound track, recorded on reversal stock. Re-recording is made from that to another direct positive, reserved for printing on Kodachrome. No negatives are used, and there is only one printing operation. The dupe is just like the original. It may be spliced into the original without going out of focus.

The 16mm. recorder used is of Bill Palmer's own construction. He had just completed this apparatus back in 1933, when the San Francisco-Oakland

bridge was under construction. Hired by the Columbia Steel Company to record the sound effects of the bridge construction, Palmer climbed out on the cat-walk, 500 feet above the water, and put his recorder in operation. At the same time, Peter Stackpole (now one of *Life's* leading photographers) shot motion pictures of the job, and later collaborated with Palmer on sound. The finished picture, shown by Columbia Steel at Treasure Island, is considered one of the first direct 16mm. sound-films made.

Palmer's sound-camera is primarily a sound recorder, but has incorporated in it a picture mechanism, so that it can be used for single system sound-and-picture-making if desired. As a recorder, it may make either direct positive or negative track in the optical system. The single system, however, is rarely used in regular commercial work because of the necessity for editing and synchronization. The camera itself is about the same weight and size as a 35mm. studio camera minus its blimp, and looks much like the Bell & Howell job. With the aid of this "tailor-made" mechanism, Palmer has made most effective use of sound. In "Pick of the Pod" there is offstage narration, music, and lip-synchronized dialogue—the latter somewhat rare in 16mm. commercials.

But the real significance of what Palmer and Butler, and scores of other 16mm. business-film specialists throughout the country are doing does not lie so much in any one picture, no matter how interesting or successful, but in the overall importance of their work as a whole. For it is due to the efforts of pioneers like them that 16mm. has become accepted as the ideal medium for the making of commercial movies. Each new assignment one of these men completes successfully provides addi-

tional proof of the amazing possibilities of direct-16mm. picture and sound technique in adaptability to adverse conditions, operational flexibility under the most widely-varying circumstances, superior economy and results, when 16mm. picture and sound are in skilled hands, fully equal to all but the major-studio best in 35mm. **END.**

Amateur Recording

(Continued from Page 523)

Special in which he could use single-perforated sound-recording film. This summer he photographed two major events in the Twin Cities, the Eucharistic Congress in St. Paul, and the Minneapolis Aquatennial.

He kept track of the exact footage for each scene, and brought the film to me for sound recording. We worked out the narration, selected music which would point up the high spots, and recorded sound on two thousand feet of Kodachrome. All this was done before the film was developed.

When those reels, representing a considerable investment in time and money, were returned for us to see and hear, the internal excitement was something that each of us will long remember—like the moment when Alice was whisked into Wonderland.

The films of the Aquatennial and Eucharistic Congress emerged into sound pictures by careful planning on the part of the photographer, J. E. Lucius, and by transforming his scene and footage record into a word and music script timed to the second.

From newspaper stories and pictures, I gained a good idea of what his pictures included. When he had noted a parade scene featuring a drum corps, followed immediately by a brass band, drum corps music was faded out as band music faded in, and the result on the screen is that of direct sound recording on the spot.

Another sequence covered the Aqua Follies. In choosing music, I moved my arms through the air with about the same timing as a swimmer, and when I found music that would have the correct rhythm, it was scheduled for that point. The finished film shows the swimmers moving in exact time to the music.

Throughout the entire picture, the rhythm of the action had to be imagined, and the music chosen to be in step.

Perhaps those who have not gone through this process of "blind recording" do not seem to appreciate the screen effect, but I can tell you there is no thrill in movie-making greater than to blend story, music, excitement, and picture together as a unit on a dozen rolls of undeveloped film.

After editing, my friend had two films *with sound*, another amateur to desert silent films for sound.

One suggestion which might help E. M. Berndt to sell more Auricons to

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amateurs, is to supply owners of their equipment with frequent supplements to the original set of directions, amplifying on correct methods of recording, including suggestions for new ideas for sound-on-film, and discussing common mistakes and how to correct them. Users of the equipment need a specific service of this nature to guide them, as they do not have available any "idea exchange" such as the larger camera and film manufacturers can afford to maintain.

Since last November, just during spare time, seven films, totaling 3600 feet, have been completed, and another one is now in process. A few more films will be made by the method of post-recording, to gain needed experience, and then we'll plunge again—into lip-synchronized pictures. This will require an electric motor drive for my Special, a blimp case, and, more than likely, a *priority order* for materials—heaven help us!

And since the recreation room in the basement, now turned into a movie studio, doesn't have sufficient ceiling height, I'll have to apply acoustical paneling to the living-room, and expect occasional guests to wait on the front steps whenever the porchlight reads "Quiet please—sound recording in progress!" **END.**

In Old Quebec

(Continued from Page 525)

ell, weighs eighty pounds set up, and the battery to run it weighs another fifty pounds. It was much easier to get it down the hill than to take it up—or maybe with good shots in the bag the load just seemed lighter!

Carrying out the main theme of the reel once more, I decided to get a sequence on Village Life. This naturally opened with a long-shot showing the houses clustered around a sharp-spined church which reached high above the roof-tops. Then there were scenes down a fence-lined lane with a wayside shrine in view. A series of shots of simple farm folk going down the road and stopping at the shrine introduced the religious angle which can scarcely be left out of a reel on Quebec. Next we picked up some peaceful shots of two little girls sitting on a fence conversing seriously about a new doll, and lazy boys lying contentedly among flowers which swayed in the breeze. Close-ups of the flowers, some clouds overhead and wind in the trees used up the footage-limit of this sequence.

I found that I had pretty well covered life in this region during the early summer season but there was hardly enough material for a full reel. I had an ace up my sleeve so doubled back to the quaint city of Quebec and made the usual city sequence, searching for the most picturesque buildings, and covered them from the most effective pictorial angles. In the Province of Quebec nothing seems to fit the theme more perfectly than the city of Quebec itself, since Quebec is truly an old-world city built

in an old-world style and it is sure to remain that way for many generations to come.

The Quebec city sequence was completed in two easy days of good shooting weather and with it finished I could feel that I had enough for the reel. Almost five thousand feet had been exposed, covering an introduction and seven different sequences. It took a little over three weeks but at least ten days were lost on account of bad weather. Usually a travelogue can be made in two weeks with advance arrangements and perfect weather but three weeks is allowable to keep you on the profit side of the line.

It is advisable to make a plan and try to stick to it. But it is good judgment to change when you find it is too difficult or takes too much time to get a planned sequence when you can find an easier substitute. This is good policy for the amateur and compulsory for the professional since travelogues are not big money-makers like an Abbott and Costello feature. Rather they are used as fill-ins on the theatre program, and like every commercial product they must be made economically if their production is to continue. **END.**

Color Temperature


(Continued from Page 527)

And there's another trick which can sometimes be worked: simply over-volt your standard globes enough to produce an effect similar to that which gives the

regular Photofloods their added brightness and higher color temperature. Photofloods, you know, are essentially standard globes built to operate normally at around 90 volts, but actually burned at 115 or 120 volts. This makes them give a brighter, whiter light, but for a shorter burning life. You can do the same thing with ordinary globes, and get a comparable effect. You probably couldn't get 90-volt globes to fit your spotlights and Dinkies, but you can get 110-volt types; burn these at 120 volts, and you'll get almost Photoflood brilliance. If your current comes from a 110-volt circuit, you may find it worth while to get a "step-up" transformer to do this. Or you can get special lamps in many of these sizes, made for use on 32-volt circuits: rig your spotlights so that you burn three of these globes *in series*, and again you'll get almost Photoflood brilliance and color temperature. But remember—you'll be generating added heat, too, so your lamps will get hotter!

Occasionally it happens, too, that you may find yourself using an unusual number of lamps on a single circuit, or perhaps working at the end of an extra-long feeder-line; this can reduce the voltage getting to the individual lamps: and for each 5-volt drop, your lamps will not only lose brilliancy, but they'll drop about 100°K in color temperature. The cure for this is of course to divide your lighting load between two or more circuits, or to find some way of employing

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a shorter feeder line. Commercial 16mm. Kodachromers, especially those who have to work extensively in factories and industrial plants, will find it well worth their while to carry a voltmeter for measuring the potential at the point where they use their lights.

All of this is very nice and scientific, I can hear some readers saying: but is there any way I can get an accurate measure of the color temperature of my lighting and its effect on my Kodachrome? Luckily, there are two commercially available arrangements by which this may easily be done. The first of these is the Eastman Color Temperature Meter. This is a pocket-sized gadget by which you can accurately read the color temperature of any individual lamp or globe by simply matching the color of a fixed filter built into the meter to that of a variable one. When the two sections seen through the eyepiece match, you read off the color temperature of the lamp you're studying. From that, by means of corrective gelatin filters on the lamp (usually varying shades of blue) or by adjusting the voltage, if you are able to, you can make sure the color temperature of your lighting is all the same, and suited to your film.

The second is the well known Harrison Color Meter. With this, you simply look through the meter at a scene, twiddling the meter's knob until the whites in the field just commence to turn pinkish. Then you read what the meter's calibrations say, and place a correspondingly-numbered compensating filter over your lens. This will balance your Kodachrome to the color temperature of your lighting. Both systems, in properly careful hands, give excellent results. As a matter of fact, there seems no reason why they shouldn't be used together, as,

for instance, using the color temperature meter to check individual lamps, and then using the color meter's compensating filters as a guide to choosing the right gelatin filter to correct the color temperature of that individual lamp to normal.

But in any event, when you're shooting Kodachrome indoors or out—but especially indoors—watch the color temperature of your lighting! It may seem like an added, troublesome detail, but it will repay you many times over in better results on the screen. **END.**

Golf Movie

(Continued from Page 529)

ing and the block letters making the husky hurdle from the ground right up to the precarious edge.

Another version of this same trick would be to set up the golf bag and a few clubs in the corner of a room beside a small table. Another golfer could be seated beside the table, probably engaged in inspecting a club or two. Try another reverse-action shot by inverting the camera and shooting the title-wording spelled out in block letters on the table top. As the footage is run off, have the golfer nonchalantly pick up each block letter, one by one, and toss it into the open golf bag. Reverse the processed scene end for end, and you will show the letters popping up out of the golf bag and being caught in midair by the golfer who arranges them neatly on the table. With experimentation, plenty of other variations are possible.

If your golfing scenes are sharply focused, you can build up an excellent collection of still shots by enlarging individual movie frames. In fact, stills rarely obtainable with a still camera can be made from movie frame blowups. For

instance, by examining each frame in a putting sequence, you can enlarge only the one showing the ball hanging right on the lip, as illustrated in this article. By careful study of movie frames, you can balloon candid shots of golfing friends not otherwise so easily pictured.

The final touch, of course, is synchronizing the edited and titled golfing movie with music and sound, and this newest phase of the movie hobby has infinite possibilities. Music should fit the mood, and this can be discovered only by listening to numerous recordings in local shops or over radio. If you employ a microphone with your dual-turntable system, you can manufacture your own sounds and obtain perfect synchronization.

This is almost unbelievable until you hear it, but by tapping a microphone sharply with a wooden pencil in synchronization through your loudspeaker the identical sound-effect of the golfer's club hitting the ball. **END.**

Movie Clubs

(Continued from Page 532)

be screened the outstanding color travelogue of the year; a film made by the club's projectionist, Trumann Vlier. In addition the Washington 8mm. Club promises to project their most outstanding 8mm. reel of the year.

JOHN T. CHEDESTER,
President.

Contest for S. F. Cinema

The October meeting of the San Francisco Cinema Club was devoted exclusively to the showing of Contest Pictures by members. Among those contributing were Anthony Kleyn, Russell Hanlon, Charles Harvey and Russ Pettingill. 8mm. and 16mm. entries in Kodachrome and Black and White were screened. The only limitations being in the length of subjects which were limited to 200 feet for 8mm. and 400 feet for 16mm.

JOHN B. SMURR, President.

Third Birthday of Phila. 8-16

October marks the third anniversary of the Philadelphia 8-16 Club and George Burnwood recalls that the idea for the Club was born in Bill Rush's bathroom. For full particulars see the October issue of the Club publication, "Close-Ups." President Frank Heininger calls attention to the fact that the Club has passed through its growing pains and sees an opportunity for cooperative zealous amateurs to do great things with motion pictures.

Beginning Tuesday, October 7th, and slated for the first Tuesday in every following month, the Club held its first in a series of informal meetings. At these meetings no regular program is scheduled; instead, members will be able to participate in recording sessions, project their own reels of film and discuss among themselves their picture-making problems.

At the regular meeting members voted for the following nominees for Club

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offices; Bracken and Bornmann for President, Sobel, Heininger, Chalfin and Achillies for Vice-President; Brautigam for Secretary; Seib and Oetzel for Treasurer, and, Bauer, Burnwood, Mrs. Bornmann, Brown and Merrow for Directors. In order to avoid losing the services of valuable members defeated for any one office, new election plans provide that losing members for one office shall automatically appear on the ballot for subsequent offices. This ruling shall not affect the offices of secretary and treasurer. Members were reminded that November is the month for the official "Gold Cup Contest."

LEE CHALFIN.

Utah's Summer Film Contest

The Summer Film Contest was the feature of the October meeting of the Utah Amateur Movie Club in Salt Lake City. 8mm. and 16mm. entries were judged by the members present for the three money prizes. F. K. Fulmer and Al Morton were also scheduled on the program for the evening. The greatly anticipated event for the November meeting will be the showing of Dr. Frazier's South Pole Pictures.

TED GUERTS, Secretary.

Tri-City Contest

The October Meeting of the Tri-City Cinema Club was held in Moline. After a short business session the following pictures were shown: "Illinois," a 200-foot subject in 16mm. by Elizabeth and Florence Roberts, annual contest first prize winner; "One Day in October," 180 feet of 8mm. by Adolf Gustafson, annual contest second prize winner; "The A B C Movie," 100-foot 8mm. subject by Elizabeth and Florence Roberts, winner of the third prize in the annual contest; "Tooterville Special," a 125-foot subject in 8mm. Kodachrome, judged by the ACL as the best made on the Rockford (Illinois) Movie Club outing; "Tooterville," 200 feet of black-and-white, by Bob Jacobs, also made on the club outing, and "Flame," a 180-foot 8mm. subject with a musical accompaniment made by Tom Severs of Moline.

GEORGIA T. FIRST,
Secretary-Treasurer.

Aussies Active

Publication in THE AMERICAN CINEMATOGRAPHER some months ago of an article on 16mm. micro-cinematography has started a considerable wave of interest in micro-filming by both medical and lay members of the Australian Amateur Cine Society and other Australian filming groups. One of these members, Mr. W. E. Hamilton, A.A.C.S., who has specialized in micro-moviemaking, was recently invited by the Lecture Service Division of Kodak, Ltd., to give a lecture on "Movie Making through the Microscope" in Central Hall, Newcastle, accompanying it with showings of his films. Later, by special request of Newcastle members of the medical profession, Mr. Hamilton staged a special

showing of certain of his films of special medical interest to an audience of doctors and nurses.

The two July meetings of the Australian Amateur Cine Club, Sydney, included a Cine Quiz and a programme of silent films on July 7th, and on July 21st, a talk by Messrs. R. Lowe and Rex Sharp on "Projection of a Home Movie Show," followed by a programme of sound films.

The Victorian Amateur Cine Society, Melbourne, recently screened a programme of films loaned by the A.A.C.S. and later previewed their Club's own production, "The Man Who Came Around." In filming this picture an interesting technical situation came around, as two interior settings were required and had to be lit to suit the requirements of members using many different types of cameras and film. Lighting these sets to permit exposures by the slowest lenses and film, 5,000 Watts of photographic flood-lights were used, providing enough light so that users of super-fast film like Super-XX exposed at $f:8$. As these interior scenes were numerous, requiring over 130 feet of 16mm. film, it had been planned to consume two nights in filming, but the whole of the interior scenes were filmed on the first night's shooting.

At a recent meeting of the Adelaide Filmo Club Mr. P. Moody, Patron of the Club, gave an interesting demonstration of rear projection. He used a 30x40-inch translucent glass screen, and projected from behind the curtains on the stage onto a mirror and thence to the screen. The films were first shown with the lights in the hall on, and lights on the stage off; the picture was very brilliant even with the lights on, and there was no eye-strain. When the house lights were switched off, the picture took on a slightly more brilliant aspect, and it was quite obvious that there was more eye-strain in the darkness.

JAMES A. SHERLOCK,
Publicity Officer, A.A.C.S.

Meters, Sound for Philly

The Philadelphia Cinema Club had as their guest speaker at the October meeting Mr. W. A. Reedy of the Weston Electric Instrument Corporation who gave an illustrated talk on the various recommended methods of using exposure-meters for both black-and-white and color. George Pitman showed his film, "A Night in Florida." A fine picture well synchronized with sound and commentation. Another feature of the evening was the screening of the sound-on-film picture, "America Marches On."

WILLIAM BRINK, Secretary.

Title, Edit at Minneapolis Meeting

The feature of the October meeting of the Minneapolis Cine Club was the titling, editing and then projection of Dr. Harvey Nelson's film following the advice and criticism received at the September meeting. Also on the program was a new opus by Ray Rieschl entitled,

"That's An Idea." The picture concerns the making of a float for the Aquatennial last summer and is packed with ideas. There were also some excellent educational discussions worked out and presented by the program committee under the Anderson-Nelson combination. Announcement was made that the 8mm. contest had been postponed till January with December 1, the deadline for contestants.

ROME A. RIEBETH.

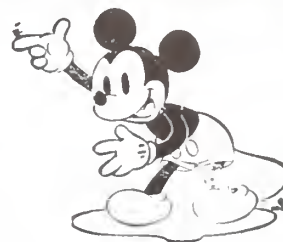
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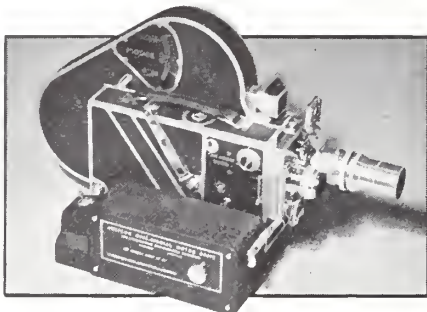
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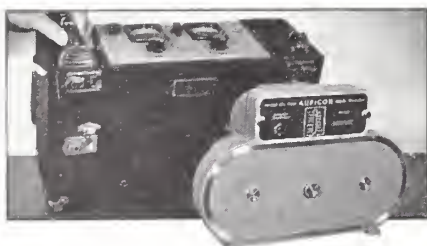
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President Mildred Caldwell exhibited her Kodachrome picture with synchronized sound, "Song of Old Hawaii." Beautiful Hawaiian scenery was used to give the native interpretation to the traditional movements of the Hawaiian dancer as she moved in the rhythms of the graceful Hula. Also screened were, "Ten Pretty Girls" by A. O. Jensen of Seattle, "Vacation" by Ellen Thunnell and Carl E. Weldin's rushes on the launching of the Alcoa Polaris. Clarence Aldrich showed "Pass the Corn" and gave a talk on "What Not to Do" aided by a picture of odds and ends.

Officers for the coming year were elected at the October 15th meeting. Robin L. Hadley was elected President, Dr. Franz Buerger, Vice-president, Harry Ward, Jr., 2nd Vice-President, Prudence Bracklow, Secretary, and Mrs. V. P. Whitely, Treasurer. Val Pope was appointed Projectionist and Earl Everly, Sergeant-at-Arms. The retiring president and secretary were automatically placed on the Board of Directors for the coming year. Highlight of the meeting was the showing of Paul J. White's 2000-foot Kodachrome film, "Mexico." "Climbing Tooth Mountain" was sent down from Hollywood for screening, and Dr. Brook's film on the launching of the Alcoa Polaris was shown with special sound effects by Columbia.

RAY FOSHOLDT,
Secretary-Treasurer.

Colorado Springs Elects

The newly-organized Colorado Springs (Col.) Cinema Club, at its October meeting, elected the Club's first slate of regular officers. Chosen to serve a term of one year were Earl Cochran, President; John G. Weininger, Vice-president, and Roy L. Thomas, Secretary-Treasurer.

A Committee was appointed by the President to submit an idea for a club film that can be used to exchange with other cinema clubs. Suggestions were offered to the Committee that the film be a picture showing the Pike's Peak region and the attractions there offered to camera fans. The committee included Mrs. Thomas, Mr. Douglas and Mr. Beardsley. It was also voted to hold only one meeting during November, with this one to be on Nov. 17th, at which time members will compete in an uncut-film contest.

Screen features of the evening included a 16 mm. film entitled "Gold," a picturization of a trip through a gold smelting plant filmed by Reverend Luce, and Vice-President Weininger's 8mm. film of Yellowstone Park.

EARL COCHRAN, President.

Hotel Camera-Club

Travelling photographers and movie-makers who stop in Chicago will be the recipients of special attention if they stop at Chicago's Stevens Hotel. This enterprising hostelry has recently opened what is said to be the first camera-club in the United States operated exclusively for hotel guests. Use of the club's facilities is offered without charge, ac-

cording to Joseph P. Binns, General Manager, who said the club will be an integral part of the Stevens' service to its guests. A skilled professional photographer has been placed in charge and will aid all those who need assistance.

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printing, print-finishing and enlarging still photos, a reception-room, meeting-room, exhibition salon and a projection-room equipped for both 8mm. and 16mm. motion pictures. Current copies of photographic magazines will be on hand in the reading-room, which will be equipped with a permanent phototechnical library. Local camera and cine clubs are being offered free use of the meeting-rooms, and a schedule of club meetings is being drawn up so that almost any time a visiting photographer drops in he will find an interesting program to attend.

The new club is the idea of hotel-manager Binns, a photographer himself, who decided that hotels in general did not pay enough attention to photographers and proceeded to see to it that his hotel, at least, would. "There are 20,000,000 camera-owners in the U.S.A.," he says. "A great many of them travel and will be in need of special photographic facilities while they are away from their own darkrooms, projectors, etc. I know I have often wished for such a set-up while travelling. The new Stevens camera club will fill that need in Chicago, and it is our hope that other hotels in other cities will follow suit."

Snow Movies

(Continued from Page 530)

lamp. If you're short on such civilized conveniences, you can do what I did down in Little America—place the camera (but not the film!) in the oven of a cook-stove. When you return from the outside air to warmer room temperatures, camera and lens will "sweat" as the moisture in the warmer air condenses on the cold metal and glass parts. This will continue until the camera is at the same temperature as the room. Before taking any interior scenes, all equipment, including the lens, should be carefully dried.

If you are on a camping trip, it is a very good idea to keep the camera and film outside all the time, of course in a safe container. I kept my cameras at Little America outside at all times, except when I had to make interior scenes or overhaul the cameras. For this, I had special canvas bags, made so they would slip completely over the camera and tie around the tripod-legs to keep out the snow.

Another thing—if you are working in extreme cold temperatures you'll find it a very good idea to wear silk gloves. They may not be so warm, but they'll give you almost the same freedom you'd have working with bare hands, and save you the painful experience of having your fingers stick to the cold metal of the camera and come away leaving an inch or so of your skin stuck to the camera! END.

RCA For MPA

RCA Photophone film sound recording equipment has been purchased by the Motion Picture Advertising Service for use in their New Orleans Studios.

Ernie Palmer

(Continued from Page 519)

lighting equipment, electrical crew and laboratory-changes, they make no other concessions to the traditional 'difficulty' of Technicolor. They give us exactly the same shooting-schedule as if we were working in black-and-white. We manage to adhere to those schedules, and sometimes even improve on them!

"As far as my own work goes, I find there's a definite advantage to utilizing substantially normal black-and-white lighting techniques in color. In some instances, the fact of color and color-contrast helps us get pictorial effects and separation of planes without going to some of the trouble we'd go to in getting comparable effects in monochrome. But in general, good lighting is good lighting, whether you do it in black-and-white or in color.

"The chief difference is in the color and intensity of the lighting. Naturally for Technicolor you must use light conforming to the daylight-white standard if you want normal results, though nowadays you can make almost equal use of arcs or inkies as occasion may demand. And you still have to light Technicolor at a rather higher level than black-and-white.

"But there's no longer any such thing as getting 'typed' on color. In between my Technicolor assignments, I've made several black-and-white pictures; my next after "Song of the Islands" will probably be in black-and-white, too. And neither the studio executives nor I have found any reason for thinking my work in color has hurt my ability to photograph good black-and-white. As a matter of fact, just before I took on this Technicolor assignment, I filled in several days on added scenes on a black-and-white picture. And I found that, due to the system of using light-meters inaugurated here by Supervisor of Photography Dan Clark, A.S.C., about the only change that was necessary was to reduce the intensity of my lighting. That, using the meter, was of course easy. And I found that with that change, I could carry on equally well re-

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ardless of whether I was using color or monochrome.

"And—here's something: one of these days, when I get a bit more time between studio assignments, do you know what I think I'll do for a hobby? I'm going to get myself a 16mm. camera—and shoot home movies in Kodachrome! END.

Scenario

(Continued from Page 528)

you use a roll of positive for this shot!)

Scene 39: Close shot of Joe. His eyes slowly turn up and he falls backward out of the picture, completely overcome. FADE OUT.

Title: THE END.

Idea Exchange

(Continued from Page 537)

duced an interesting interplay of light coming through the transparent letters of the title. Shooting in color, you could have the front of the title painted in colors, or a colored picture with cut-out letters, and use the same idea, of course having the light on the drum stronger than the light on the front of the title.

STUART McCLELLAN.

Photography of the Month

(Continued from Page 522)

down while filming some of these scenes. It is too high a price to pay for mere entertainment.

The direction seemed to miss in many points and, frankly, we could wish, for the sake of our relations with British audiences, that the "Yank" had been presented as a more representative American than the ingratiating heel portrayed in this picture.

THE MALTESE FALCON

Warner Bros.-First National Production.
Director of Photography: Arthur Edeson, A.S.C.

"The Maltese Falcon" is an unusually interesting picture. If you can detach yourself from its fast-moving melodrama (no mean feat, by the way) you'll discover that its cinetechanical interest is at least as great as the dramatic. It is one of the first films to point the way to a successful adaptation of the "Citizen Kane" photographic technique to more routine production. Much of the "Kane" technique has been retained: there is strikingly similar depth and crispness, the use of wide-angle lenses and roofed-in sets, not done just occasionally, when somebody thought of it, but throughout the picture, as an integral part of the production. Both director of photography Edeson and director Huston have done very well with it, too.

The note of realism dominates. There is far less of the conventionally melodramatic effect-lighting of the usual "whodunit," and a surprising lot of the realism of a documentary. The use of the increased-depth technique adds noticeably to this impression, even though at times the distorting effect of wide-angle lenses is somewhat apparent. However, Edeson has handled this phase of the picture with remarkable skill, for this distortion is not nearly so noticeable as it has been in many another picture.

To this writer's mind, somewhat excessive use was made of the trick of shooting up from comparatively low camera-angles on roofed-in sets. It is always a good trick when the action calls for it; but while it was at times used legitimately in this picture, it was rather more frequently used strictly for effect, and when there is no bona-fide reason for such an angle, the dramatic continuity of a film is a good deal the better if such tricks are avoided.

Edeson's handling of the sets themselves was excellent. Some of the sets

were distinctly drab affairs, representing unspectacular offices, apartments, and the like, such as may be found plentifully in San Francisco. Both the sets themselves and Edeson's treatment of them added markedly to the realism of the picture, and Edeson is to be congratulated on the way he has used them, avoiding the usual photographic clichés, and stressing the note of drab reality. His handling of the ship-fire sequence is very effective. So, too, is the way he has handled the backings: so often the weak point in a picture, he has contrived to make them look like real backgrounds, rather than obvious backings.

An interesting sidelight on the production is the fact that the wide-angle lens used is not the conventional 24mm. objective so generally used, but a special 21mm. lens which is part of the cinematographer's personal equipment.

BRITISH COLUMBIA SPORTS

Produced by Vancouver Motion Pictures;
Released by Columbia (Cinecolor).

Director of Photography: Ray Fernstrom, A.S.C.

We don't often have either the space nor the occasion to comment here on short-subjects. But "British Columbia Sports" is an exceptional short-subject. From start to finish it is one of the finest examples of camera-pictorialism on exterior scenes that we've ever seen, yet at the same time it is entertaining and fast-moving. Restricted by the inevitable limitations of any two-color process of cinematography, the reel is none the less an example of uncommonly good color-photography. Director of photography Fernstrom certainly has very few equals in handling bipack, and knowing how to choose subjects which will be effective in spite of the system's technical limitations. The Cinecolor laboratory has returned the compliment by providing him with an excellent two-color print.

Virtually every scene in the film's regrettably short length (we could have stood an additional reel of it) is worth study as an example of fine pictorial handling of exterior scenes. Fernstrom's skill in keeping things stepping along briskly is excellent, too. Both the action and in many scenes, the camera, as well, keep constantly moving. There is hardly a static frame in the whole reel.

ARMY CHAMPIONS

Metro-Goldwyn-Mayer short-subject.
Directed and photographed by Paul Vogel, A.S.C.

Apparently MGM shorts producer Pete Smith, when he got the idea for this interesting little reel, called in director of photography Vogel, and turned him loose with instructions to bring back a picture on team-work in Uncle Sam's Army. In doing so, Producer Smith certainly picked a winner, both in subject-matter and in the man he chose to handle it. From every viewpoint, Director-Photographer Vogel has done a fine job. Photographically, the picture is excellent, despite the fact that

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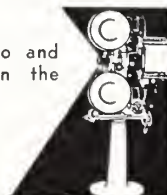
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many of its scenes must have been gotten on the fly, when Army units in the field had time to lend themselves to picture-making. On the other side of Vogel's two-sided job, he has performed equally well. The action, ranging from the infantryman firing his Garand rifle up to the Coast Artillery sinking a ship with the mighty 14-inch railway rifles, is excellently directed, and shown in clear, fast-moving detail. The use of trick optical-printed effects to point out special features of the action is very clever. By all means mark this down as one short to go on your "must see" list.

AT THE STROKE OF TWELVE

Warner Bros.-Vitaphone short subject. Director of Photography: Ted McCord, A.S.C.

Here's a little dramatic short, made from a Damon Runyon story, which could very easily have been built into a full-length feature. It certainly boasts feature-quality photography from Ted McCord, A.S.C., which would have won him high acclaim had it been released in feature form. It is as nice an example of low-key, effect-lighted dramatic cinematography as we've seen in quite some time.

The picture deserves additional praise—and study—as an exceptional example of fast-paced direction and cutting. From the opening scene to the closing title it maintains a tempo all too seldom seen in these days of slow-paced over-padded features.

DOWN MEXICO WAY

Republic Picture.

Director of Photography: Jack Marta.

The rise of stars like Gene Autry has brought a definite change in the business of photographing "westerns." Time was (not so many years ago) when if you were a past-master at composition and filtering of exterior scenes, you were likely to be an "ace" at filming "westerns." But today you must add to that a talent for keeping things photographically interesting while the star does his stuff with guitar and vocal cords, and even occasionally handle a "production number" or two.

Bringing this latest Gene Autry picture to the screen, Jack Marta does a very capable job on all counts. His handling of the exteriors is excellent, even though in a sequence or two the

weather-man didn't favor him any too much. His treatment of the inevitable song-sequences is pleasing, though in some it appeared to us he might have used a trace more contrast and a trifle less diffusion. His treatment of the several important interior scenes in the office of the promoters and the home of the wealthy Mexican gentleman, is excellent, while his handling of the fiesta sequence makes this quite the photographic highlight of the film, even though Mexican audiences may raise their eyebrows at the sudden appearance of a floating garden reminiscent of Xochimilco in a village which is but a short pistol-shot away from typical "sage-brusher" rock-and-cactus desert.

In our estimation the only really weak point in Marta's handling of the film was in his treatment of the several night-effect sequences. In these, face-tones suffered somewhat, though the pictorial effect was excellent. The uncredited process work was excellent throughout.

HENRY ALDRICH FOR PRESIDENT

Paramount Production.

Director of Photography: John Mescall, A.S.C.

Transparency Process Photography: Farciot Edouart, A.S.C.

Working within severe limitations of budget and schedule, director of photography John Mescall, A.S.C., has turned out a surprisingly creditable job. No one expects outstanding photography on a picture like this, where time permits only the strictest "formula" setups and lightings, but throughout Mescall manages to get a little more out of each scene that would be expected. His handling of the night-effect scene in "Henry's" front porch, where he is persuaded to run for President, is particularly pleasing. Fortunately, too, the majority of his players were young and camera-proof, lightening his task of personal lighting perceptibly.

The outstanding technical feature of the film is without doubt the sequence in which young "Henry" finds himself forced to take off and fly an airplane (complete with nervous and highly reluctant passenger)—even though he has only the faintest idea how to land it again. This is really a triumph for the special-process forces—Gordon Jennings, A.S.C., on special-effects, and Farciot Edouart, A.S.C., on the trans-

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parency projection process work. It is much to the discredit of Producer Sol Siegel and the other Paramount executives that these men did not receive screen credit, for they certainly provided the most uproarious individual sequence of the entire picture. Edouart's projection-process work is particularly outstanding. There are some scenes—notably those in which “Mr. McCloskey” falls

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

Of The American Cinematographer, published Monthly at Los Angeles, California, for October 1st, 1941.

State of California } ss.
County of Los Angeles

Before me, a Notary Public in and for the State and county aforesaid, personally appeared William Stull, who, having been duly sworn according to law, deposes and says that he is the Editor of the AMERICAN CINEMATOGRA-PHER and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537. Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, A.S.C. Agency, Inc., 1782 No. Orange Drive, Hollywood, Calif.; Editor, William Stull, 1782 No. Orange Drive, Hollywood, Calif.; Managing Editor, William Stull, 1782 No. Orange Drive, Hollywood, Calif.; Business Manager, Marguerite Duerr, 1782 No. Orange Drive, Hollywood, Calif.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) A.S.C. Agency, Inc., 1782 N. Orange Drive, Hollywood, Calif., a non-profit corporation wholly owned by the American Society of Cinematographers, Inc., 1782 No. Orange Drive, Hollywood, Calif.

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5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is.... (This information is required from daily publications only.)

(Signed) WILLIAM STULL,

Editor.

Sworn to and subscribed before me this 15th day of October, 1941.

(Seal)

M. R. DAVIS.

(My commission expires February 27, 1944.)

out of the plane and back into it again, which absolutely could not have been filmed without the special equipment and methods Edouart developed for filming the air scenes in “I Wanted Wings.” We'd like to suggest to the gentlemen who denied Edouart and Jennings screen credit for their achievements that they take their script to any of several other studios we could name—and see for themselves how much special planning, trouble and equipment other process experts would take to turn out the scenes these producers valued so lightly!

Showcase

(Continued from Page 536)

Film Libraries, are listed.

Every effort has been put forth to make this film source directory virtually a bibliography of information on films, where to locate them and how to use them. It will be helpful to teachers, to the business man, to the pastor, to the individual in the home, to CCC camps and other governmental departments, in fact, every 16mm. film user. The price is 50c. Address your request, accompanied by remittance, to Directory Editor, Victor Animatograph Corporation, Davenport, Iowa.

Univex Film Made in U.S.A.

A speed-up in deliveries of Univex films, now marked “Made in U.S.A.” has just started with the completion of America's newest film plant according to an announcement from the Universal Camera Corporation of New York City. Situated at Williamstown, Massachusetts, this new modern factory will man-

ufacture Univex sensitized products, which were formerly produced in Belgium.

Air Corps Buys DeJur Meters

The United States Army Air Corps has placed a \$24,660.90 order for “Critic” Model 40 Exposure Meters with the DeJur-Amsco Corp., Shelton, Conn. According to Sales Manager Kuscher of DeJur-Amsco, the meters will be delivered to the various departments of the Army's Air Service, where they will play an important part in both aerial and ground camerawork.

Television Newsreel

The first specially-edited television newsreel in this country is being produced by Photo & Sound, Inc., 16mm. commercial-film studios of San Francisco, in conjunction with the Telenews Theatres Company. The first release features scenes of the defense of Leningrad and a special commentary on Russia by Walter Duranty, the latest football forecast by Dick Hyland, a spectacular auto-crash at the Oakland (Cal.) speedway, pictures of the California State Guard and a picture-story on Cleveland, Ohio, as one of the nation's important defense centers. Editing is by Jack Tobin of Telenews and Andy Potter of Photo & Sound.

If there is an indication that the video industry can sustain a weekly release of this nature at present, production will go on a regular basis. The current first release uses public domain music and will be sent as a sample to all television stations now in operation.

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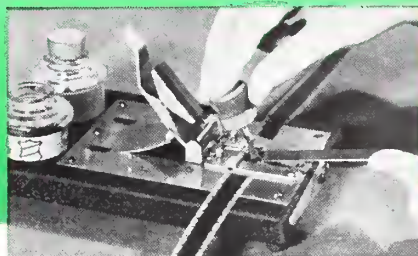
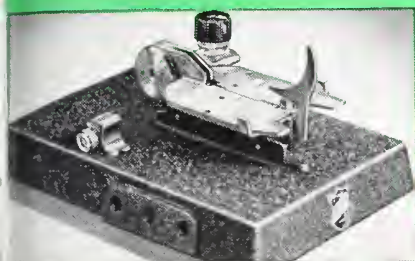
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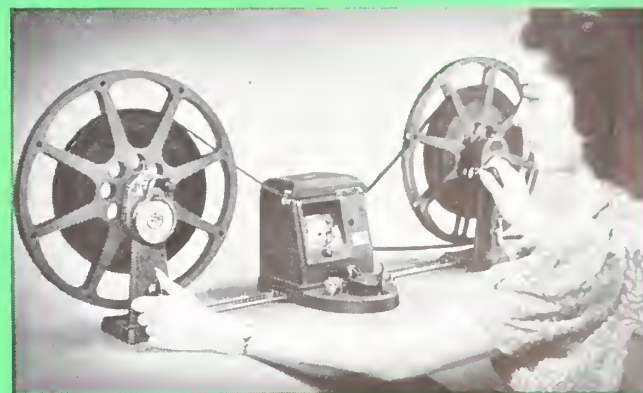
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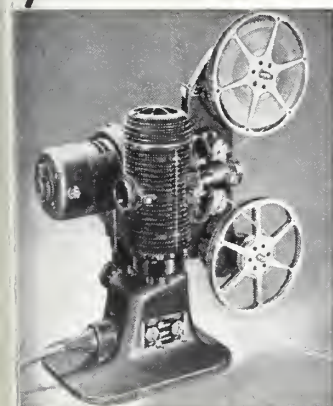
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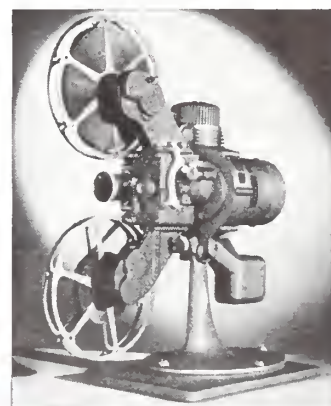
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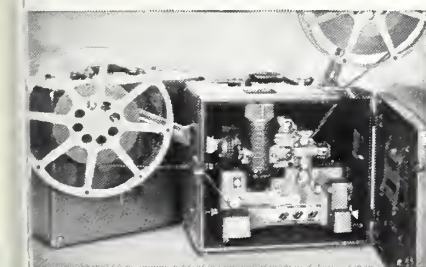
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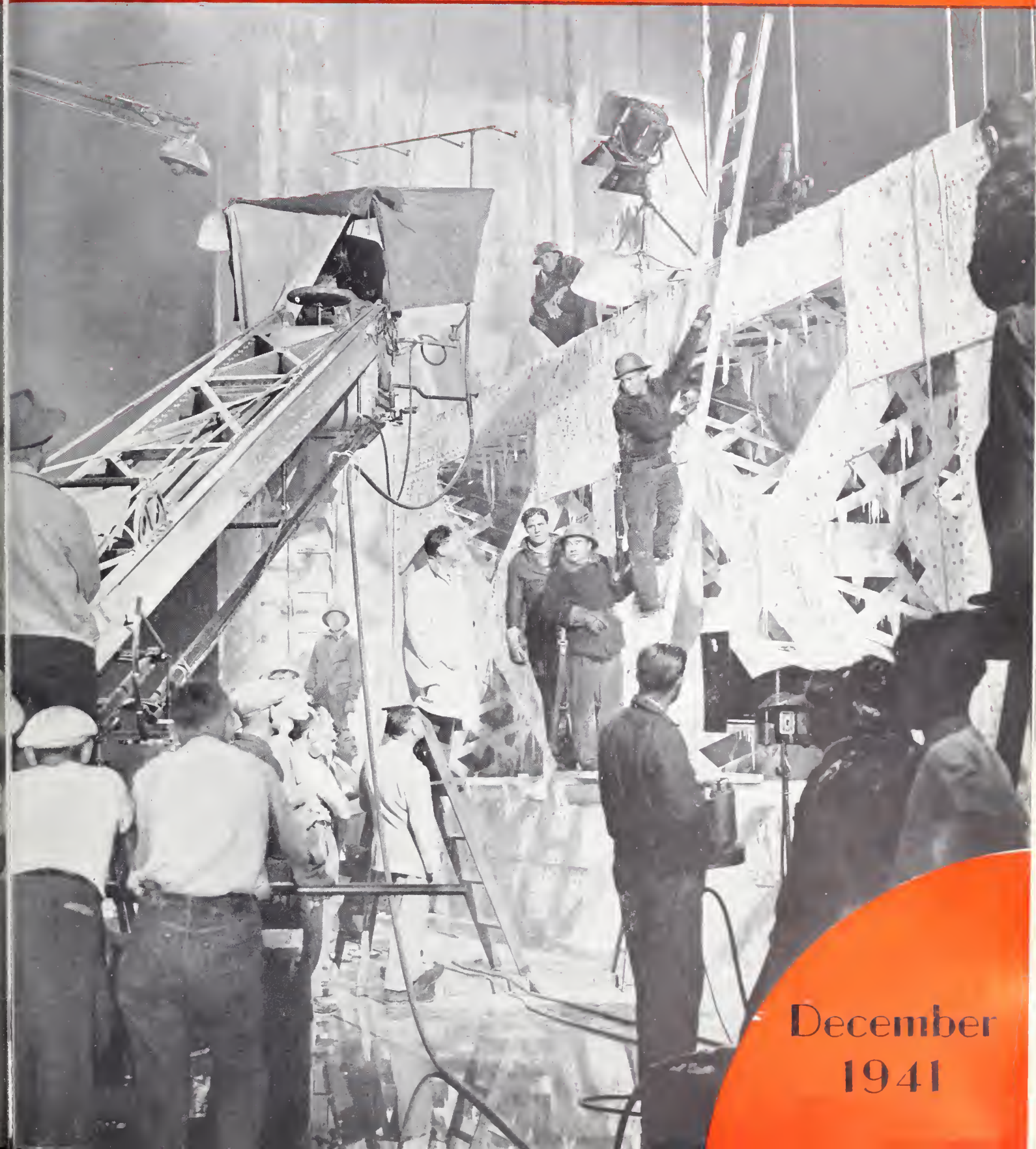
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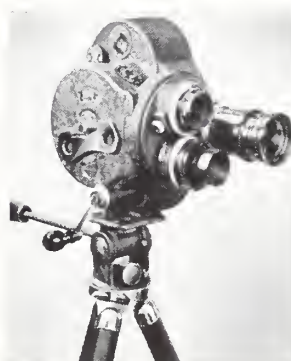
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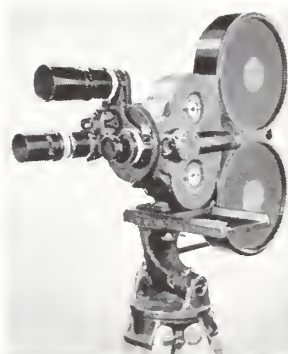
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THE MOTION PICTURE CAMERA MAGAZINE

VOL. 22

DECEMBER, 1941

NO. 12

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The Front Cover

Director of Photography James C. Van Trees, A.S.C. (standing below stepladder) films a wintry scene for Warner's "Steel Against the Sky." The icicles are made of parffin and melted sugar; notice rain nozzles in front of camera, "rain-shield" over microphone, and man in foreground with smoke-pot. Photo by Bert Longworth.



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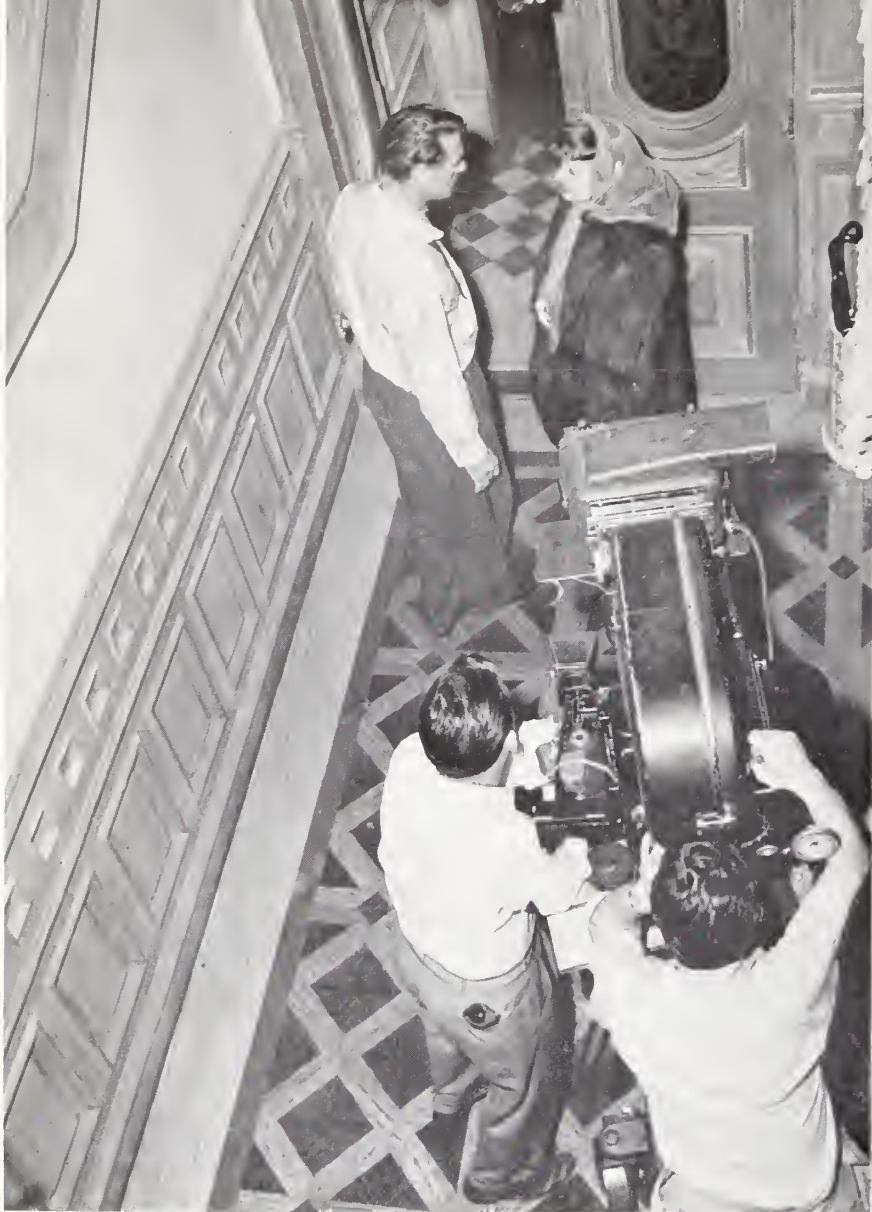
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produces without doubt the most intense illumination of any practical studio light-source available today. Due to this, and probably also to its strongly blue-white color, arc illumination has very markedly greater carrying power and penetrating ability than rays from any other commonly-available light-source. Both of these characteristics give the arc a very definite place in modern lighting technique.

The so-called "pan-focus" technique we employed in Orson Welles' "Citizen Kane," for example, very definitely depended upon the use of arc equipment. This technique obtained increased depth of field by the very simple expedient of stopping down the camera's lens until the desired depth was obtained. In practice, this required the use of apertures of $f:8$ and smaller—sometimes even $f:11$ and $f:16$ —throughout much of the production. And even though full use was made of such modern advantages as coated lenses and Super-XX film, this necessitated a rather high level of illumination. A majority of the sets for this production were roofed over, and all of the lighting was done from the floor, rather than from overhead. Accordingly, light of very considerable intensity and carrying-power had to be used. The answer, of course, was to use arcs very extensively. It is safe to say that "Citizen Kane" could not have been made without modern arc lighting.

There is another aspect to this lighting problem which has received very little, if any, comment. That is the fact that the use of arcs permitted us to light this way and yet to avoid the unevenness of exposure which might normally be expected under such circumstances.

Lighting a deep, roofed-in set almost exclusively from floor units, one would naturally expect the illumination to fall off rather sharply. People or objects in the foreground, and hence close to the lamps, would receive a high level of illumination, while people or objects farther back would be comparatively underexposed, as the light from these lamps fell off.

Using arc broads (the modern "Duarc" so generally used in Technicolor) this problem was minimized. With an arc broad, you can place the lamp considerably farther back than you would place an incandescent broad or spotlight, and yet obtain the desired high level of illumination. Where, for instance, you might place the conventional unit ten or fifteen feet from the point you wished to light, you can put the arc twenty or thirty feet away. And here's the important point: at that distance, the field of uniform illumination is very considerably broader than with a lamp placed closer in. With the lamp nearer the action, its depth of illuminative field might be a matter of two or three feet. With an arc placed farther back, your subject can move freely over an area of ten feet or more in depth without undesirable changes in exposure-value. Arc illumination, in a word, gives you depth of field in lighting to match the

USING ARCS FOR LIGHTING MONOCHROME

By GREGG TOLAND, A.S.C.

THE fact that the modern arc lamp is ideally suited to the requirements of Technicolor cinematography has, I think, tended to make most of us overlook the fact that it can also be extremely useful in black-and-white camerawork. Of course we all know that nothing can quite take the place of the arc for simulating strong sunlight effects; but there are other, less obvious uses of "hard light" in monochrome camerawork which can be of even greater

value. Certain modern techniques, such as the use of extremely large, stage-built exterior sets, and especially the increased-depth camerawork which has been increasingly used this last year, virtually demand the use of arc equipment to supplement the more familiar Mazda.

This is based on two outstanding characteristics of the arc. In comparison to either the space occupied by the lamp, or the current consumed, the arc



optical depth modern technique affords.

This is particularly valuable when, as I was in my most recent production, "Ball of Fire," you are working in comparatively small, deep sets under somewhat crowded conditions on both sides of the camera. On the screen, "Ball of Fire" may not be nearly as spectacular as any of a number of recent films I have photographed; but due to these and other conditions it was one of the most difficult assignments I have had in a long time. As I have said, many of the sets were deep and sometimes narrow; some were quite small, and most of them were surfaced with walls of dark, light-absorbing wood panelling. The action kept the sets quite crowded: there were six or eight players in nearly every scene—sometimes more—and with the exception of Barbara Stanwyck, most of the players wore very conservative, black clothes. In addition, as a number of the principals were rather elderly character-actors and rather nervous, we had an opportunity for a full rehearsal. The only solution was to stick to a simple, reasonably foolproof lighting—and hope for the best.

The answer was found in the extensive use of arc illumination. I utilized "Duarc" broadsides, both on the floor and overhead, to provide a generous foundation of "filler" light, and then built up my modelling with arc and incandescent spots in more or less the usual manner. The result was excellent. The overall illumination from the arc broads provided the necessary basic illumination level throughout the set, giving the actors ample room to move about freely. As might be expected, the color and intensity of this light brought out the textural value of the panelled walls, and for that matter, of the black costumes, as no other light could do, and added a desirable sheen and richness to the walls.

Interestingly enough, though it is so revealing on settings and costumes, arc lighting is usually flattering to the players. It gives a very pleasing rendition of facial tones and skin textures. As long ago as "Nana" and the other pictures we made with Anna Sten, we dis-

covered this. The critics were very kind in their remarks about the way Miss Sten appeared on the screen, and it may be interesting to recall that in all of the pictures she made for Goldwyn, she was never lit with anything but arc lighting. More recently, I used the same type of illumination on Barbara Stanwyck, with excellent results.

Where high-intensity arc spotlights are used, I generally have found it best to follow Technicolor practice, and filter them through a Y-1 or similar straw-colored or amber gelatin. Thus filtered, their light blends excellently with incandescent light, while yet retaining the characteristics of penetration and carry-over power which make the arc inherently desirable. By varying the density of the gelatins used, a surprising range of effects is possible.

It may be interesting to mention, also, that at the Goldwyn Studio we are able to use our arcs quite satisfactorily on a dimmer, so that very precise adjustment of intensity is possible. Instead of using a conventional dimmer, however, we wire the arcs on a separate circuit, fed from a separate generator. The field current of this generator is, in turn, through a dimming rheostat, thereby controlling the voltage output of the generator. By this means it is possible to operate the arcs not only at full rated voltage, but at lower potentials down to 80 volts or lower, and if necessary to fade them out completely. Fortunately, the arc, when dimmed in this way, retains its normal coloring quite well. It does not begin to get objectionably red until dimmed to the point where the arc is just about to go out. Then the light suddenly reddens and dims out almost simultaneously.

We have made it standard practice whenever a set is rigged in any way with arcs, to wire them in this manner. This is especially useful on large, stage-built exteriors or other sets using large backings. The backings are always lit with arcs. A test is made at various voltages, and the correct voltage to maintain the desired balance between foreground and backing is found. Thereafter, it is a simple matter to adjust the arcs

Left, production scene from "Ball of Fire"; right, how it was lit: note use of 65-Amp. arc spotlight as key light in foreground and (left) its effect. Photos by Hal McAlpin.

for that voltage, and the correct balance is assured. This is naturally particularly useful when making retakes or added scenes some time after the original scenes have been filmed, and the lighting equipment probably removed from the set.

When the subject of using arc lighting in black-and-white is mentioned, the objection is commonly made that while arcs are undeniably effective, they are also more expensive to operate. To my mind, this argument holds good only on very superficial analysis. Of course, as the arc burns, it consumes carbon trims, which must be frequently replaced. But incandescent globes of comparable power cost fifty or sixty dollars apiece, and must also be replaced at fairly frequent intervals; and you can buy a lot of carbons for the price of even one of these globes.

A few years ago the objection that arcs required constant attention was valid. Today, it is very much less so. Modern arc lamps—whether spotlights or broadsides—are very nearly automatic in their operation. Once correctly trimmed, they stay that way until the trim is consumed. Retrimming the spotlights is of course quite an easy matter. The broadsides take a little more time and care in the trimming, but with reasonable care—conserving the arcs during long waits between takes, and so on—a modern arc broad will give a burning period of from 45 minutes to an hour or more on a single trim. This is quite enough to take care of an average half-day's work, so that the arcs can be trimmed at the start of the day's work, and again during the lunch-hour, and there need be no delays in shooting on that account.

ArCs undeniably do require a somewhat greater electrical crew on the set, since one electrician can efficiently tend only a limited number of arcs. But the cost of this technical labor is by no

(Continued on Page 588)

Why Overlook the Set-Miniature?

By VINCENT KORDA

Supervising Art Director
Alexander Korda Productions

IF there is one almost universal fault to which we cine-craftsmen must almost all plead guilty, it is a too-great willingness not only to accept, but to attempt almost to standardize upon successful innovations in film technique. Something new or unfamiliar is successfully used in the direction, photography or set-design of a production, and straightaway its use is adapted to other productions, often to the exclusion of older, more conventional ideas which might actually be better suited to the needs of the particular scene or story involved.

Cinematographers, for example, are currently only too familiar with the trend started, or at least heightened by Gregg Toland's "pan-focus" increased-depth technique as it was used in "Citizen Kane." While Cinematographers themselves may hold somewhat diverse opinions as to whether or not this technique represents something either new or desirable in photography, there is no doubt that many directors and executives found it novel and impressive. In consequence it has been emulated in many subsequent productions; sometimes fittingly, sometimes in instances where it would seem more routine methods would have been more suitable.

In my own field of Art Direction, the same thing has occurred with the use of roofed-in sets. While the idea of putting ceilings on interior sets is certainly not new, it was used so effectively in the Welles picture that it struck the industry with much the impact of a new idea. Accordingly, we find many Art Directors, either voluntarily or by executive request, putting ceilings on many of their interior sets. Sometimes this is desirable; it would, for instance, add much to the atmospheric value of a set representing the interior of, say, a low-ceilinged English or Scotch cottage. But on other types of interiors the same trick of design could be of negligible value, or even harmful dramatically.

Sometimes this over-enthusiasm for accepting a new method or process can delude us into believing that the older method it displaced is necessarily a back number, and as such no longer practical for modern use. Such may occasionally be the case; but I think that in many more instances sober analysis would prove that the requirements of modern production are so infinitely varying that there is usually a place, if not an actual need, for both methods to enable Art Directors and Cinematographers to meet those varying conditions.

An excellent example of this is in the almost universal use of the so-called "matte shot," in which a desired area of the set is left unfinished, matted off in the camera, and the scene is later completed by a second exposure through complementary mattes when the ceiling skyline, or other feature is added by photographing a properly-scaled painting.

There is no doubt that this is an extremely valuable part of modern production technique. It is also an immeasurable improvement over the original "glass shot" technique it supplanted. But it seems to me that in recognizing these advantages, many of us—Art Directors and Cinematographers alike—have tended to overlook the fact that another somewhat similar earlier method of adding to sets has, under certain circumstances, equal or even greater advantages.

I refer to the use of "front miniatures" and miniature set pieces in general, in which the function of the matte-painting is served by a miniature suspended in proper relation to set and lens.

These set-miniatures, as a rule, may cost somewhat more than a corresponding matte-painting. But they give more convincing effects than any but the finest matte-paintings, together with production flexibility that no matte-painting can possibly give.

With all due respect to the skill of the industry's matte-painters, it must be admitted that their paintings are inherently flat, two-dimensional affairs which can only suggest the third dimension of actual depth and roundness. And while it is true that the screen upon which the final picture is projected is also a flat, two-dimensional affair, the camera's eye almost invariably makes a sharp distinction between its depiction of the actual, three-dimensional part of the scene and of the two-dimensional portion added by the matte-painting. No matter how perfectly the two portions of the scene may be matched together in perspective, gradation and exposure, the matte-shot always has a strong tendency to appear synthetic.

The set-miniature, on the other hand, is, like the set itself, a three-dimensional creation. It has inherently the depth and roundness of the normal, full-scale portions of the scene. In addition, the Director of Photography can use on it the same tricks of lighting which he employs to give depth and natural roundness to his set and players.

In this, and in aligning the miniature and full-scale components of his scene,

he has the great advantage that he, himself, coordinates the lighting and treatment of both elements of his shot according to what he personally sees on the ground glass, rather than depending on the judgment and concepts of another person. He lights and composes both elements at once, with everything under his immediate control.

From the production viewpoint, the miniature has the very great advantage of being more flexible. A matte-painting, as a rule, can be used for but a single camera-angle, and usually with but one lens of given focal length if the two elements—actual and painted—are to coordinate properly. Moreover, movement of the camera in making the actual part of the shot—panning, tilting or dollying—is impossible.

The set-miniature affords much greater freedom. A single miniature set-piece, properly designed and photographed, will permit the making of quite a number of different camera-angles and, if necessary, the use of a variety of lenses. Since the miniature and the camera may easily be moved with relation to the set and to each other, further variation of camera-angles is often possible. Moreover, while the freedom permitted is admittedly not as complete as if no miniature were used, the front-miniature permits the camera to pan, tilt and dolly as may be necessary to best present the scene's action.

A further, very important advantage is that the miniature does not tie the Director and Cinematographer to a single, fixed approach to a scene or sequence. Preliminary conferences on the script may have indicated that certain angles and treatment may be desired for the establishing shots of a sequence, and the set and miniature designed to suit them. But it often happens that when the production unit is actually on the set spontaneous, last-minute changes in directorial or photographic treatment of the action may make a different approach seem preferable. In that event, the miniature can usually be adapted to that different and unplanned approach without delay.

In this connection, too, it must be pointed out as a very practical advantage that the set-miniature—unlike the matte-shot—does not tie up the scenes involved for several days or more, while tests are made and the first and second-exposed "takes" are laboriously matched to each other. When the miniature is used, the completed scene is screened the next day, along with the other rushes of the day's work.

The chief objection to the use of set-miniatures, in comparison to matte-shots, seems to be the increased cost. For a low-budget picture, this is a very valid objection. But for the average major production, I do not feel that the matter of cost is so serious a drawback as it might seem.

To take a concrete example, in the "dream ball" sequence of Alexander Korda's recent production, "Lydia," we made use of a front-miniature to put in



the ceiling, some chandeliers and some overhead drapes in the long-shots. As I recall it, this miniature cost around \$800, a figure considerably more than a good matte-shot would have cost. But—overlooking for the moment the fact that it would have been difficult in a matte-painting to reproduce the textural effect of the drapes to match those on the actual set itself, or to paint in the natural, fine gradations of lighting which Director of Photography and Associate Producer Lee Garmes, A.S.C., used to make the effect so completely convincing—the matte-painting could only have been used for a single camera-angle. The miniature, on the other hand, was used for some half-dozen or more angles of the sequence. When the added cost of the miniature is thus spread over several shots, the disparity in cost is greatly lessened, if not actually offset, and the more convincing effects possible loom more significantly.

Like most of the other worthwhile practices of cine-technique, the set-miniature, I might add, is fully as adaptable to Technicolor as to black-and-white. The perspective and optical characteristics of the color-camera are such that the set-miniatures for a color production are, as a rule, rather larger than those one would use to obtain a comparable effect in monochrome; but their usefulness is the same. We employed quite a number of them in "The Thief of Bagdad," and more recently, in "Jungle Book." They enabled us to put on the screen sets which seemed spectacularly large, yet without involving the now-prohibitive costs of constructing enormous full-scale sets.

In this, it seems to me, the miniature set-piece can serve a further useful function. We often hear it said by critics and others not directly connected with the industry and its economic problems that the cinema has definitely lost in eye-appeal since the impressively huge sets of such silent-film spectacles as "Intolerance," "Ben Hur," and others passed from the scene. Yet we know that under modern conditions, such sets are economic impossibilities.

Modern set-miniatures. Left: chandelier and draperies in top foreground were a front miniature. Right: top, scene from "Jungle Book"; note elephants in middle ground, actors moving in foreground, and massiveness of ruins in background. Below: how it was done; note full-scale foreground set, reduced-scale miniature set-piece suspended over set, and painted backing for extreme distance. Photos by Robert Coburn.



In many instances, the use of miniature set-pieces can go a long way to restore this spectacular appeal without involving proportionately high costs. With the actors moving in an actual set of thoroughly practical size and cost, the spectacularly huge completion of the scene can be effected by the use of an economical miniature-piece, and much more convincingly than would be possible with the use of a matte-painting, projected background, or the like.

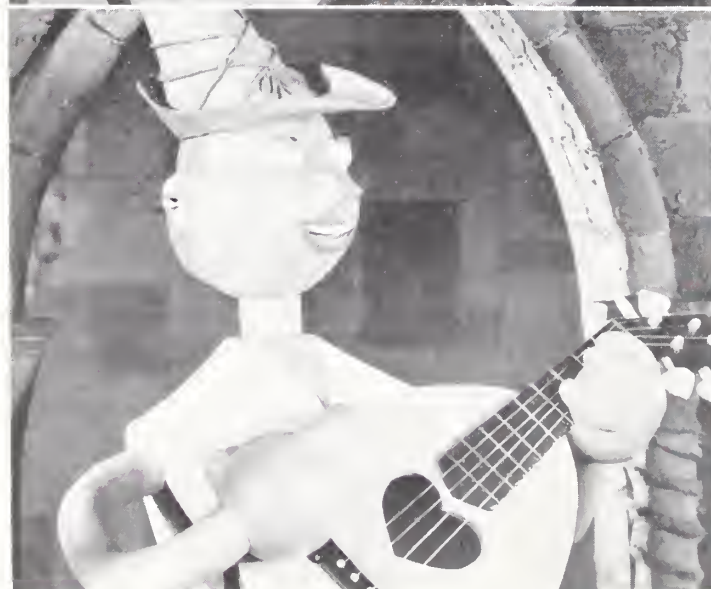
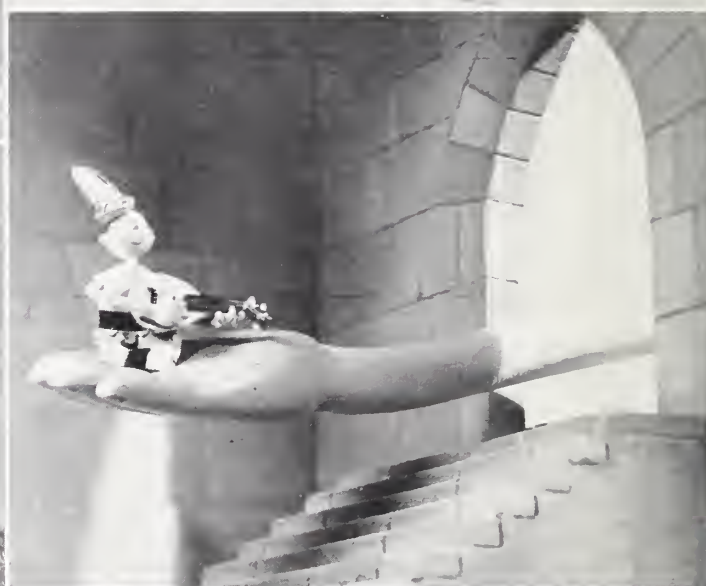
It has been done in a number of recent instances. "The Thief of Bagdad" owed much of its spectacular visual appeal to this technique. So, too, do some sequences from "The Jungle Book."

One of the sets we built for this latter production serves as an excellent illustration of the possibilities this technique affords. The scene represented an ancient, lost city in the Indian jungle,

with massive ruins half-concealed by the over-running jungle growths. It would be manifestly impossible to reproduce in full scale anything which would give the desired impression of massive size. The use of either a backing or a matte-shot would fail to give the convincing aura of reality we wanted.

A combination of a reasonable amount of full-scale construction with a rather large miniature, and a skillfully-painted backing, solved the problem. The set itself was sufficiently large to permit us to use several full-grown elephants, as required by the script, not only in the foreground but in the middle-distance of the scene. The miniature—necessarily quite large—represented the upper, jungle-clogged terraces of the temple, with its spired pagodas and weird, many-faced idols towering almost like sky-

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Three-dimensional animator and his puppets. Left, top, George Pal and his leading man, "Jim Dandy," split a bottle of California champagne; center, note three-dimensional lighting as "Jim Dandy" serenades his lady, bottom, over a score of different figurines are required to make "Jim" raise his eyes to his girl-friend's balcony. Right: "Sarong-Sarong," the puppeteer's Dotty Lamour—very much in action; middle, the "giant's" hand is little larger than a man's; bottom, note reality of three-dimensional puppetoon set.

"Puppetoons"—George Pal's Three-Dimensional Animations

By ALVIN WYCKOFF, A.S.C.

A FEW months ago, in a Hollywood theatre, a jaded audience of film-wise preview-goers suddenly opened its collective eyes, gasped and enthusiastically burst into applause. The applause wasn't for the pretentious feature being previewed, but for a little short-subject which surprisingly succeeded in putting on the screen something genuinely new—and wholly ingratiating. A "puppetoon," it was called. An animated picture, yet not a cartoon, its actors and scenery, though as fanciful as any film-cartoonist's concept, had the same three-dimensional effect as any "live action." Puppets they were—puppets without strings or any other visible means of manipulation—walking, dancing, running and riding through three-dimensional Technicolored settings of unusual beauty. Though fanciful and imaginative, their three-dimensional character gave an illusion of reality no other animated films have ever possessed. Soon Hollywood, and then America's movie-going millions were asking, "What are these 'puppetoons'? How are they made? And who is this George Pal who makes them?"

The story really begins thirty-three years ago, in the little Hungarian village of Cegled, not far from Budapest, where George Pal was born. Artistically inclined from the first, he loved always to dream, and to draw lines, and curves of proportion, which when joined together became fanciful and graceful figures.

His brilliant mind carried him through his studies rapidly to graduate from the University with honor, and the coveted prize of a degree in Architecture. He did not stop with this achievement, contented to draw just lines and curves, or to design prosaic buildings. He answered the call of romance that beckoned him from brother-artists who had won their places designing for the Motion Picture.

He mustered his lines and curves into designs for scenic backgrounds and sets. His designs were new; they were different. He had the courage to defy, and break away from, the conventional. His inventive mind brought forth new creations.

The warmth of artistry, embellished by his lines and curves, brought him quick recognition as a master of his art. Dame Fame stepped in to pick up the thread of his destiny and called him to Paris, and so, he left Budapest, the cradle of his knowledge, to go out into a competitive world.

In Paris, his genius soared to greater

heights and opened doors of new opportunity. He was called to Vienna, and a year later to Prague, and then to Eindhoven, Holland, to assume new responsibilities and activity, that compelled him to maintain a staff of thirty assistants.

But now, he applied his lines and curves to a block of wood, some plastic material, and pieces of fabric, and fashioned the joyful figure of a little doll, then others were fashioned until he had a troop of little actors that ambled through, and around, miniature scenic sets of artistic environment.

The next step in progress was to add sound to his lines and curves and give his little actors dialogue and singing voices tuned to joyous musical melodies.

Through constant application, and research, he had approached closer to his goal, and, "Pal's Puppetoons" became a new cinematic art; a three dimensional sensation. Little people of wood and plastic lived, they walked, they talked and did things in obedience to the mind of genius that guided them. There were no strings, no visible mechanical contrivances of manipulation. He had conceived a method of delightful entertainment that lived pleasantly in memory. A fluid motion of theatrical significance that produced a sense of reality.

But even in pre-war days, Europe's limited theatrical outlets for motion pictures could not provide sufficient financial returns to make possible the production of animated short-subjects for regular theatrical release. But in Europe, unlike America, commercial firms can sponsor films for theatrical release—documentaries, novelty short-subjects, and the like.

Prominent European advertisers were quick to grasp the "Puppetoons" as an attractive medium with which to broadcast a message of their merchandise to a public that paid its way into theatres. Thus, before the war, a new form of entertainment blossomed richly.

But Pal's new idea needed a yet broader field. His ingratiating puppets needed a chance to tell real stories, unhindered by the commercial necessity of "plugging" radios, electric light-globes, or other products. The only place where this could be possible was America—Hollywood, to be exact—where the unusual in filmdraft is sought to supply a world-wide market. So to Hollywood came George Pal and his madcap models. Now, the antics of George Pal's Puppetoons grace the screens of American theatres, holding their rightful place of entertainment with other feature productions.

The first step in making a Pal Puppetoon production is the writing of the story and dialogue, then the composition of the music and the designing of sets; and the sets are just as real as those of a major production, but small, to fit the tiny actors, according to scale.

The next procedure is the making of colored drawings. Pal draws the first, middle, and last phase of each movement of each character: his assistants draw the twenty-five or more drawings of the intermediate phases, then the drawings are photographed and projected to test the movements.

When Pal's heroine casts her glamorous eyes over the hero she must be fashioned into twenty-eight other characters of her mood, each different phase in the progress of her thought-intention must be fashioned, from the starting point of the flirtatious moment of her wide open eyes, to eyes closed.

Before the Puppetoon hero can kiss the heroine, he must be put into shape. He must be carved and fashioned into irresistible male attractiveness by a staff of woodworkers and artists, working together for days to make the gallant little cavalier the charming, captivating, hero demanded by the story. Altogether, some fifty-six heroes and heroines, each slightly different, must be fashioned, and each phase photographed as a single frame of motion picture film.

The use of plastic material permits a certain, limited amount of movement to each little figurine; for some simple movements, arms and legs of one figure may be bent to provide some of the necessary phases of animated movement. But beyond this somewhat restricted motion, new figures must be carved and cast.

The first Puppetoon creations were photographed as other motion picture productions of the era, in the monotone of black-and-white photography. Five years ago, Mr. Pal began to experiment with color, employing the Gasparcolor process of his fellow Hungarian, Dr. Bela Gaspar. Then his creations leaped joyfully into more active life; there was realism. Scenes of daylight were brighter. The little actors strolled along flower-bordered paths of brilliant hue, with foliage of proper shade and balance, or they floated in a canoe down a sparkling stream under the shade of graceful trees. Moonlit nights lent a subtleness to the romance of eloping lovers pursued by an irate parent. Color completed the realism of life.

Today, all of the Pal Puppetoon productions are photographed in Technicolor to produce that perfect realism of life that enhances the mirthful entertainment of Pal's little people.

Some of his Holland-made productions, such as "Ship of the Air," "Phillips Broadcast," "Love on the Range," "Sleeping Beauty," "Phillips Cavalcade," "Southsea Sweethearts," are all in gorgeous color.

Music for the productions made in Europe was supplied by the famous Eng-

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BOTTLENECK OF THE MOVIES

By PEVERELL MARLEY, A.S.C.

WE hear a lot about bottlenecks in industry these days. It's fashionable to talk about them; whether it's making tanks or tableware, the industry that doesn't have a bottleneck just doesn't rate conversationally.

Our own industry has its bottleneck, too. It's a unique one, at that, for appropriately enough it's really made of glass.

The bottleneck of the motion picture industry is the lens of the camera. All the sweat and toil and tears—all the expense and ideas and effort that go to make a modern production have to be

squeezed through that little glass bottleneck of the lens before the production reaches saleable form and can be sent out to the theatres to make (we hope!) its profit.

If you draw up one of those organizational charts that production managers are so fond of hanging on the walls of their offices, you'll see this very clearly illustrated. The result will look something like a pyramid balancing on its tip: at the top you'll see the executives, producers and production heads. Below them will come the writers, scenarists and art-directors. Next in the narrowing order will be the director and the actors. And finally, you'll see that the whole involved structure rests on the lens of the camera and the unfailing accuracy and artistry of the man who

operates it to put the picture on film. So at this time, ladies and gentlemen of the cinema, I give you the cinematographer!

You can call him what you like—cameraman, cinematographer or director of photography. He occupies a unique position in the industry, for his is the one assignment in the whole chain of production which cannot be by-passed. Pictures can be and at times actually have been made without virtually every one of the many people and services we're normally accustomed to considering as essential—but motion pictures cannot be made without a camera.

The cinematographer, too, is the one man in the industry who has to stand completely alone in his work, with no one to check his decisions or share his responsibility. Once the rushes are on the screen, plenty of people are ready, willing and more or less able to tell him whether they like or dislike the effects he has put on the screen. But in the actual shooting he—and he alone—must make the decisions and then, sink or swim, stand by them.

It's a many-sided job he faces each time he shoots a scene. Each scene must, in the first place, be made an artistically and technically acceptable picture.

It must be lit and photographed to bring out the full "production value" of set and action. The players (with the exception of Boris Karloff) must, generally speaking, always appear at their best. Each scene must carry through in its lighting and photographic treatment the visual mood appropriate to the action of scene and sequence.

And finally, every scene in the entire production must be considered, not only for its own individual photographic and dramatic values, but as a unit which must coordinate visually with the production as a whole. It's a far cry, indeed, from the relatively simple task of the pioneer cameramen of the early "flickers," who had merely to set up his camera at a predetermined distance from his actors on a sunlit stage, turn his cap backward and "grind sixteen!"

If you want a yardstick by which to measure the technical and artistic strides cinematography has made during recent years, take an evening off and drop in to one of the several places in town where the old-time silent pictures of fifteen and twenty years ago are screened; then drop into the handiest theatre and catch even the bottom half of one of 1941's double-bills. Even overlooking the item of sound, you'll see cinematic progress written boldly across the screen in every scene.

Just the other day I had an opportunity to make a comparison of that sort. Out at 20th Century-Fox, in preparation for making a modernized version of that amusing satire of the 20's, "Chicago," we screened a print of the original version of the same story, which I photographed "way back when" for the C. B. DeMille Studio.

Watching that old-timer unreel was
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* This article, written originally for the Annual Number of the "Hollywood Reporter," gives such an interesting comparison of the way cinematography has advanced during recent years that it is reprinted here, through the courtesy of the "Hollywood Reporter."

Picture Partners

By JOHN HUSTON

Noted Screen Writer; Director of
"The Maltese Falcon."

NOT so long ago, my concept of cameramen was that they were nice fellows who concentrated their efforts on turning out pretty compositions and making the leading lady look glamorous. To be perfectly frank, I also had an idea that the present system of crediting them as "Director of Photography" was more or less a polite fiction—dressing things up with a new name, and not much else.

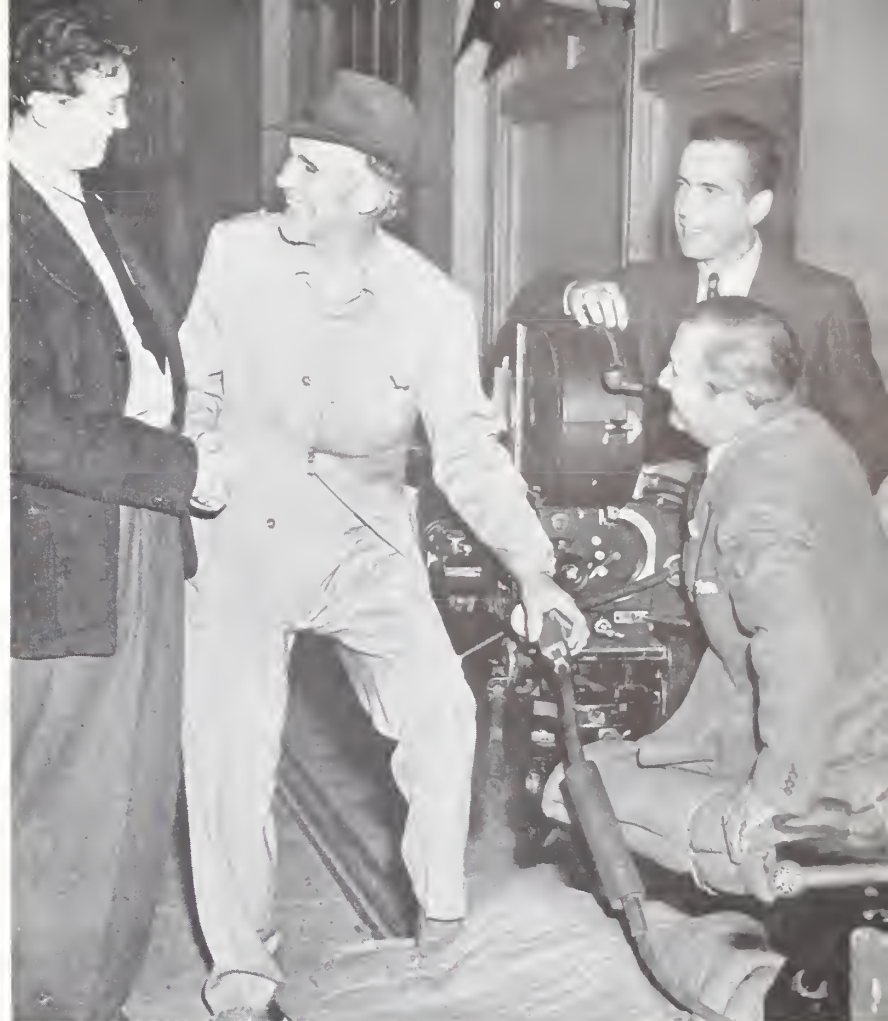
But that was before a change from writing scripts to directing them put me out on the set actually to work with these men of the camera. Practical experience very quickly forced me to revise my ideas, and convinced me that the industry's cinematographers are, as a class, perhaps the most invaluable and yet generally underrated men in Hollywood.

My first big surprise came when I discovered that these men are interested in a lot more than just turning out pretty pictures. They do that as a matter of course; it's part of their job. But much more than that, they're storytellers par excellence. Instead of using written or spoken words, they tell their stories with the camera. Often—if you'll only take advantage of their knack of visualizing drama—they can, with a simple, pictorial effect, put over dramatic points upon which writers or directors may have toiled and worried vainly.

Speaking for the moment strictly as a writer, I wish there were some way in which the men and women who write our screenplays could have an opportunity of working more closely with the men who photograph them. As writers, most of us naturally think largely, if not exclusively, in terms of dramatic situations and dialog. Yet we're writing for what is fundamentally a pictorial medium. The situations and dialog are necessary, Heaven knows, but if we lose sight of the basic pictorial appeal of our medium, we're likely to use a lot of words to put over a point or situation which could much more easily be gotten across by visual means.

As a writer, I often wondered why so many changes were made in my scripts between the time they left my typewriter and the time they reached the screen. Now I know! Like most of the rest of us, I simply didn't know how to write for the camera: I sometimes wrote things which, when they reached the set, turned out to be impractical cinematically; at other times, and for the same reason, I'd try to put into words things which could more easily be told in pictured action. Even in the course of directing two pictures I've repeatedly seen a story-minded cameraman like Arthur Edeson, A.S.C., with whom I made my first picture "The Mal-

Actor Walter Huston congratulates his son, Director John Huston, while Director of Photography Arthur Edeson, A.S.C. (seated) and Actor Humphrey Bogart look on.



tese Falcon," or Ernest Haller, A.S.C., with whom I am now making "In This Our Life," make suggestions which would by-pass a page or so of dialog at a time, putting over the same idea visually in less footage—and far more effectively.

As a director, I've come to value these suggestions from the cameraman very highly. Of course, I'm still pretty young and new at the business of directing pictures, but I can't conceive of any director who really has the interest of his production at heart ever getting so big and experienced that he could ignore the suggestions that come so naturally from his partner at the camera.

And the man at the camera can be just that—a partner to the director: really a co-director taking full responsibility for the visual side of the production, leaving the director free to concentrate on the actors and their work. That title, "Director of Photography" is a lot more than a mere phrase! It's a very specific definition of the invaluable service the cinematographer can offer to a production—if we'll let him.

What do I mean by the "visual" side of the production? A lot more, I've found, than merely pictorial composition, high or low-key lighting, and the star's appearance! For example, our scripts today concern themselves largely with dialog, with only a sketchy indication of where a scene is laid, and little, if any indication of camera-angles and business. If you shot a picture solely from the indications given in the script, you'd prob-

ably end up with a picture that was 85 or 90% long-shots.

The writers, you see, expect the folks on the set to break a scene up into its component individual angles or (as I think the Russians call them) "cutting pieces." And one of the first things I learned when I started directing was that this isn't nearly as easy as it might sound. You've got to figure out how each shot is to be coordinated with all the other shots that will ultimately make up the sequence, even though the individual, intercut shots may be photographed days apart.

Then there are details to remember—such as, in a series of intercut individual shots of two people talking to each other, keeping the figures on the screen approximately the same size; keeping directions of movement straight, so actors don't get apparently crossed up between one scene and the next; even keeping track of the direction in which a player ought to look at another one offstage so as to keep things flowing naturally on the screen.

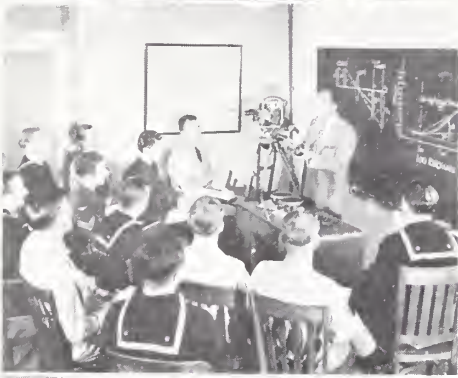
My experience has been that a director can do a much better job with cast and story if he'll let his director of photography serve as a virtual co-director, taking almost complete charge of these details. And most directors of photography—at least such men as Edeson and Haller—are glad to do so. They admit it makes them work a good deal harder, but they welcome that because it gives them a chance to contribute more con-

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HOW THE MARINE CORPS MAKES TRAINING FILMS

By SERGEANT ALFRED W. ROHDE, JR.

Official Cinematographer, U. S. M. C.



Top, March of Time Producer Louis de Rochemont advises a group of Marine Corps cameramen on editing; Middle: March of Time Cinematographer John Geisler and (below) Sound Engineer Ken Hawk instruct a class of Marine, Naval and R.A.F. cinematographers; Bottom: Service Men study aerial cameras at plant of Fairchild Aviation. Upper three photos by Frank Calbera, March of Time; bottom, courtesy Fairchild Aviation Corp.

SERGEANT, take your platoon to the crest of that hill, and at the command 'Camera,' stage a direct charge with fixed bayonets!" The scene is set and the cinematographers, with nervous fingers, stand in readiness. The Director, recently inducted from his Hollywood studios, speaking in firm and determined tones now commands, and no longer suggests as in dealing with a temperamental prima donna in the

days before the national emergency His responsibilities have been redoubled, for an anxious nation is awaiting not mere entertainment, but the added protection which the results of his work will ultimately provide. He has an important job to do, and it must be done quickly. Back-breaking strain has been placed upon the necessity for expansion in our armed forces, and in devising a means to prepare it for all possible eventualities. Time is the important element, and all possible means to avoid the loss of it in training "green" troops constantly hovers over the discussions of those charged with these responsibilities. Lethargic indifference has been erased from the mind of every true-blooded patriot, and the proverbial grindstone is being worn to a frazzle by the backs of their concerted efforts.

Today, many excellent and capable motion picture experts have been called to the colors to alleviate part of the obstacles placed in the building of a first-class defense. The potentialities of a great profession in building this defense have been clearly recognized and placed at our disposal.

Hollywood's great studios, through the Academy Research Council, are turning out many training-films for the armed forces. In addition, the U. S. Marine Corps, the Navy, Army and Air Force each have their own motion picture sections busily engaged producing training films which do not require Hollywood's extensive studio facilities.

The introduction of training films has not only served to vitally define a military objective, but has also provided a technically perfect means for "neutralizing" it. Verbal explanations, with the aid of rough sketches, have become as outmoded as hoopskirts. Military instruction has been transformed by the movie into a system which borders closer on reality. Where an appreciation of movement is essential in understanding an objective, the clear, life-like reproduction found in the use of the celluloid strip has become invaluable.

The problems of producing technically perfect training films are many, and the means provided to develop these important aids are gradually coming into true light. Under existing regulations, the branch for which a production is to be made assigns a specialist in its field to serve as technical director, to check the scenes for accuracy. He will direct a good portion of

the scenario before the camera, and also serve as a liaison officer in making arrangements for the troops who serve as actors. This officer compiles technical data for the film treatment, determines the scope of the subject, locale or general setting, and all other details which are subject to final approval by his headquarters. The manuscript is then turned over to a screen-play writer who is qualified by training or experience to prepare the picture adaptation or "shooting scenario."

Consultations between the liaison officer and writer will occur from time to time in deciding methods for handling various points photographically. Consideration of the mental capabilities of the audience before which the training film will be eventually shown is of paramount importance. Intricate explanations and deep tactics very often defeat the purpose of the film where the audience is not yet vested in the elementary phases. In complete contrast, the antithesis also applies. The writer will incorporate in his "picture blueprint" tactical ideas which are presented in a clear, logical sequence, divested of all unimportant details. Emphasis will be placed upon the essential points, and repetition of the action used as a "yardstick" to correlate all the ideas that are presented.

The completed scenario is then forwarded to the branch headquarters for further check in accuracy and dialogue. Approval of the photographic plan must be given prior to attempting any field photography. When this has been received, the first and most important phase of the production is accomplished. The foregoing metamorphosis very often requires over a month, according to the size of the production, and we now enter the second phase—shooting the scenes.

Our Photographic Director takes command. The responsibility of a dozen details rests upon his shoulders and must be carried out with the same vigor and leadership which characterizes the uniform which he wears. His job is in no way separated from that of an officer on the field of battle, for he, too, is thoroughly versed in military tactics and discipline which are applied in coping with problems met in his field of activity.

His ingenuity in determining the composition of each scene fragment, gauging a good workable photographic plan, handling the men under his command, and placing the results of his work into

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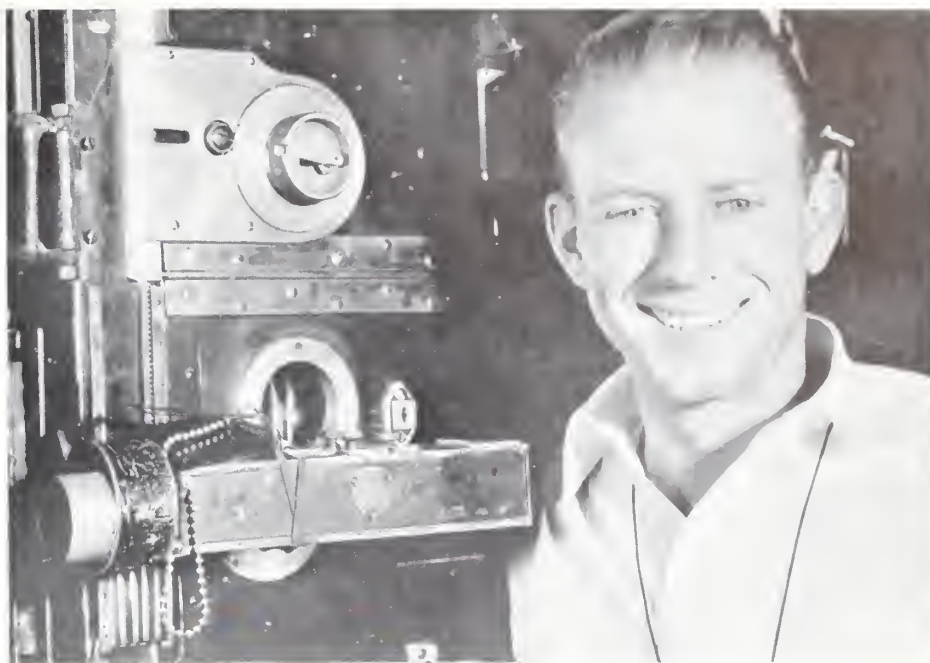
DIRECTOR of Photography Billy Mellor, A.S.C., is typical of Hollywood's younger generation of cinematographers. Young he certainly is; official figures show he's just barely beyond draft age, and in spite of all his efforts, he looks deceptively younger than that. Yet at the same time, he is acknowledged as one of the industry's most skillful and versatile masters of the camera. In the seven years he has been a full-fledged Director of Photography, he has climbed steadily to the forefront, and proven his versatility on everything from westerns and comedies to Bing Crosby and Bob Hope musicals, tense dramas, and Dorothy Lamour Technicoloropuses. He's probably photographed more pictures starring Paramount's pet glamor-girl than any other cinematographer in the industry.

He's a bit touchy, I think, on his youth, and on the fact that virtually the whole of his cinematographic career has been spanned in the relatively few years since the advent of sound. "But," he says, "maybe there's a good side to it, too. I remember a lot of the longer-established fellows had quite a time adjusting themselves to such technical innovations as sound, panchromatic film and the moving camera. Professionally speaking, I pretty well grew up with them; and if I don't have a lot of pioneer experience to draw on, I also didn't have a lot of pioneer traditions to un-learn."

"And I did have about the best cinematographic schooling anyone could ever want. For six or seven years I worked as Operative Cameraman with Victor Milner, A.S.C., who is one of the industry's all-time masters of lighting, and in between I worked with Charles Lang, A.S.C., and other top-flight cinematographers on the Paramount list. Those fellows taught me things I could never have learned in any 'school' of photography."

"That's something I try to impress on hopeful youngsters who write me—as they do most other Directors of Photography—asking how to prepare themselves for a career in cinematography. They all seem to ask if there's any 'school' I could recommend. The truth is, there isn't—unless you count the school of practical experience which taught most of us. Just figure it out for yourself: cinematography is something that just can't be reduced to a set of rules and forms. You do things differently on every scene and set-up. The only way you can learn what to do under any given situation is by experience—and lots of it. The only way to get that experience is in actual practice, on real production."

"To teach that way, a school would have to engage regularly in actual production, which would call for an investment of several hundred thousand dollars in basic equipment, to say nothing of the little matter of production costs which would be equally large. All that would mean the school would have to have a tremendous endowment, or



Aces of the Camera XII:

WILLIAM MELLOR, A.S.C.

By WALTER BLANCHARD

charge an enormous fee. And then—where would the graduates go in an industry already seriously over-manned? No, much as I hate to throw cold water on the aspiring hopeful, there's no school but the long, hard school of experience."

Mellor's attitude toward his work is characteristically modern. "One of the biggest mistakes a cinematographer can make," he'll tell you, "is to try to reduce his work to fixed standards, and do things this way or that just because he happens to be on a certain type of picture. You can't just say, 'This one's a heavy drama—I'll go to a low-key lighting and fairly heavy diffusion,' or 'This is a melodrama, so I'll light for strong contrasts and scary shadows,' or 'This is a comedy, so I'll do it in a high key.' Maybe you can work successfully by formula for a while; but then something a bit out of the ordinary is going to come along — and then where'll you be?"

"For instance, right now I'm making a picture like that. It's a melodrama. But it's also a Bob Hope comedy. So what—? If I light it by formula for melodrama, I'm likely to lose some of Bob's funny-business in the shadows. If I light it for comedy, I'm sure to lose

the melodramatic suspense that forms a contrasting background for Bob's comedy. Incidentally, I have to keep co-star Madeleine Carroll looking her glamorous best, too."

"So what I'm doing is to blend my technique to get both effects at once. I'm lighting my sets primarily for the melodramatic mood—strong contrasts, heavy shadows, and all that. But I'm seeing to it that the shadows just aren't where Bob Hope is going to be doing his stuff. Not that I'm giving him conventional comedy-lighting—that would stick out like a sore thumb, and make the audience at least subconsciously realize the picture was badly photographed. But I'm making certain that wherever in the scene Bob may be playing, there's always adequate illumination so his 'business' won't be lost—and that there's always a good, legitimate reason for that illumination, too. That's just as important!"

"As for Miss Carroll, it's fortunate that this business of glamor-camera-work is done largely in the closer shots. That way, I can subordinate the background, keeping whatever mood I need to match the action, and at the same time light her as is best suited to her."

(Continued on Page 596)

A.S.C. on Parade

As we go to press, Harry Jackson, A.S.C., Wilfrid Cline, A.S.C., and J. Stout, Assistant-cameraman son of Archie Stout, A.S.C., are unreported in the Hawaiian battle area. On location there to film scenes of U. S. Fleet and Marine Corps activity for Twentieth Century-Fox's Technicolor "To the Shores of Tripoli," TC-F Camera Chief Dan B. Clark, A.S.C., reports they had been scheduled to sail from Pearl Harbor aboard one of the Navy's battle-wagons a day or so before the Japanese bombing began the war. To date, no word has been received from them, and probability is they are still aboard ship, busily chasing Japs instead of movie scenes. Wherever they are, we're hoping for their safety, and that they may come back with the world's first Technicolor scenes of real war.

James Wong Howe, A.S.C., on his recent between-pictures trip to Washington, D.C., made arrangements with the Chinese Embassy and Consular Authorities for setting up a Chinese-American motion picture clearing-house which would provide the studios with expert technical advice on all films relating to modern Free China, and also coordinate the activities of China's cameramen in making news and documentary films of Free China's gallant fight against the Japs, and provide arrangements for editing and releasing these films in America. Fine work, Jimmy!

Another A.S.C. member who has been tendered an International official post is John Alton, A.S.C., who was recently offered the position of Production Chief of the Argentine Government's newly-formed Educational and Documentary Film Office. Alton, last time we talked to him, said he was waiting further details before making his decision.

The Pacific Coast's wartime "radio blackouts" irk A.S.C.-Prexy Fred Jackman somewhat, account he's gotten into the habit of turning on the Society's big Scott radio whenever he comes into the clubhouse—just to keep things cheerful, he says. Now, when the loudspeakers decline to emit even a peep, poor Fred is in a quandary: he doesn't know whether the broadcasters are observing A.R.P. radio silence, or if one of the receiver's twenty-some tubes has popped!

Apologies are in order to William Snyder, A.S.C., for omitting his name from its proper place among the credits in our recent review of "Aloma of the South Seas." But here's how it happened: we missed the official preview, and had to catch the film at a regular theatre showing. The only day possible for this was one where we caught one studio preview in the morning, a second in the afternoon,

and had to attend a late evening showing of Government documentaries in Long Beach that same night. En route to Long Beach, we stole time to see "Aloma"—and missed the credits by one red-lit traffic-signal! Anyway, Bill played a big part in turning out a very lovely job of Technicolor.



The picture above is a world-wide news "scoop," secured at terrific cost. If you know Gregg Toland, A.S.C., you know he hates to waste time in a barber's chair when he's busy on a picture. Consequently, as the shooting-schedule wears on, Gregg comes to look more and more like a candidate for a first-fiddle chair in a major symphony. This routine went on as usual while Gregg was lensing Goldwyn's "Ball of Fire"—until somebody remembered that when Gregg came back from last spring's yachting trip with John Ford, he showed up with an extremely natty hair-cut administered by Ship's Barber Actor Henry Fonda. So one morning on the "Ball of Fire" set, Toland was overpowered and held captive while Hank administered a tonsorial trimming as shown, under the watchful supervision of Gary Cooper and the rest of the troupe!

Speaking of pictures — where's that picture Charles Rosher, A.S.C., so faithfully promised us for this month's back cover?

From now on, it's Monday nights off for Karl Freund, A.S.C. He's so enthusiastic about that new Norwood "Director" exposure-meter, he's arranged to take time off every Monday P.M. to play host at the Photo Research Corp. Studio to explain and demonstrate the meter to any cinematographers who make arrangements to attend.

Reed N. Haythorne, A.S.C., our Washington Correspondent, reports he's up to his ears in Defense Filming work. Still a civilian, he's Production Supervisor for Training Films in the Navy Department, doing training pix for the entire Navy. Six months ago, he says, they had a single desk for two people

—Reed and Lt. Thomas Orchard, from the March of Time staff. Today they have a real force, which is still growing. Total score: 209 pictures approved for production, 84 finished, and 86 in various stages of production.

Another speed-demon is Jerry Ash, A.S.C. The other day, shooting Universal's "Temporarily Yours," he and Director Charles Lamont knocked out no less than 14 pages of script in a single day's shooting. And good, too!

We regret to report the death, on November 10th, of Lt. Carl O. Peterson, U.S.N.R., who will be remembered by many as a Paramount News cinematographer and radio and photographic expert with Admiral Byrd's antarctic expeditions, and co-cinematographer with John L. Hermann, A.S.C., F.R.P.S., F.R.S.A., in filming Byrd's second expedition to the South Pole.

Our apologies, also, to Ariel L. Varges, A.S.C., incorrectly referred to as being in Lisbon for Paramount News. Fact is, he has for years been with MGM's "New of the Day," and before that with Fox Movietone in charge of the Tokio office. We got only a verbal resume of his letter as the business-office gloated over a stack of new subscriptions he sent in; and as we were just reading a letter from one of the Paramount News boys, we slipped up mentally and credited the wrong newsreel with having this newsreel ace on its payroll. We're sorry all around!

We're thinking of suing Sid Hickox, A.S.C., for infringement of copyright, or something. We ran into him out at Warner's the other day wearing a snazzy suit that seemed to be cut from the same bolt as our pet, new Harris tweed overcoat! On second thought, though, maybe it would be easier if we just asked Sid for his tailor's name, and got a suit to match our coat!

Add "sartorial wonders of the world": Warren Lynch, A.S.C., heading in to Warner's Stage 5 wearing that incredibly blue hat—!

Have you noticed it, too? Seems every time you pick up a copy of the "Hollywood Reporter," there's another picture of Stanley Cortez, A.S.C., and his beautiful bride, smiling or dancing (sometimes both!) at Ciro's! And they do say that since Stan's camera has been going to town—but sensationally—lensing Orson Welles' "The Magnificent Ambersons," two very major studios are dangling contracts for Stan's signature.

Incidentally, wonder why some of these writers who break into print with articles about miraculous reducing diets don't check with the A.S.C.'s experts—Jerry Ash, Ben Reynolds, and Karl Freund? During the last few years they must, between them, have taken off enough poundage to outweigh one heavyweight prizefighter!

THROUGH the EDITOR'S FINDER

ONE of the most interesting aspects of editing a magazine like THE AMERICAN CINEMATOPHIL is the fact that you have a chance to peruse exchange copies of similar magazines published in every corner of the world. Before the outbreak of the present war, magazines devoted to professional or amateur cinematography used to reach us regularly from some fourteen or fifteen foreign lands. It was a source of great pleasure and pride to observe how the common interest in cinematography—whether as a vocation or an avocation—was binding together peoples of all races and nations into a common fellowship of the camera.

This was especially notable among the cine-amateurs. In addition to fine international friendships and affiliations between individual amateurs and local or national amateur cine clubs in various countries, there had already been established an international organization of amateur cinematographers—the Union Internationale des Cine-Amateurs, better known from its initials as “Unica.” Established in Europe, where it held annual conventions and competitions and made its headquarters each year in a different country, it had affiliated with it individuals and clubs not only in Europe, but in South America, Japan, Australia and elsewhere. It seemed to be one of those rare organizations so constituted as to be above the sway of petty nationalism and politics—truly international in scope and character as well as in name.

It is with a sense of deep regret, therefore, that we read in one of the last German cine magazines to reach us before the activities of the Democratic Navies finally cut off all postal communication with the Axis-dominated countries, an item which indicated clearly that “Unica” is no longer a genuinely amateur, international group, but has fallen under the domination of Axis politicians.

Describing “Unica’s” Ninth International Contest, held last spring in Budapest, and participated in by a mere handful of filmers from Germany, Italy, Sweden and Hungary, the article lists some of the individuals who were leaders in the organization’s contest. We quote: “Taking the lead in the Unica Contest’s activities were notable such German leaders as Dr. Karl Meltzer, President of Unica and Vice-President of the German National Film Chamber (‘Reichsfilmkammer’, which controls all professional film activities in Germany. Ed.) and Dr. Hans Plaumann, General Secretary of Unica, while the Italian delegates were Dr. Giovanni Tomasi, one of the highest leaders of the Italian Propaganda and Film Ministries, and Dr. Luigi Tosi, Fuehrer of the Fascist Youth Movement.”

To one accustomed to considering that amateur cinematography, like amateur

hobbies and sports generally, should be something free, wholly apart from political or governmental domination, such a statement as that seems revolting in the extreme.

It is wholly possible, though not probable, that the august gentlemen named may, like many officials we could name in our Democratic countries, be devotees of home-movie making. But to the Democratic way of thinking, their political and governmental offices should automatically bar them from active participation and holding office in any organization devoted to amateur cinematography. To cite a parallel, let us say that if Will Hays, in this country, or Britain’s Minister of Information, should chance to be users of 16mm. or 8mm. cameras, our amateur movie clubs or professional organizations like the A.S.C. and Britain’s A.C.T. would certainly welcome them as Honorary Members or Patrons; but just as certainly we would bar them from active membership—to say nothing of office-holding—in the organization as long as they retained their official or governmental positions.

In a way, this situation summarizes the why and wherefore of this present war as nothing else could. On the one side are arrayed the powers dedicated to a way of life in which the government—and particularly the party in power—is supreme, fully entitled to dominate the private life of the individual, even to the thoughts he thinks and the way he enjoys his hobby. On the other side are arrayed the powers dedicated to the Democratic way of life, in which the individual’s freedom of thought and action, so long as he does not contravene the common good, are paramount to governmental or political interests. Due to the urgency of today’s War Effort, some of us may face difficulties in obtaining materials and equipment; others of us encounter scenes which commonsense patriotism tells us should not unauthorizedly be photographed. But no governmental officials dominate the activities of our hobby groups, or dictate to us what ideas our cameras should or should not present. Within the vast bounds of commonsense and good taste, we are free to enjoy our hobby as inclination and conscience guide us. That sort of freedom, we believe, is worth fighting for!

SCREEN credit, as a whole, undoubtedly means more to those directly in Hollywood’s film circle than to people elsewhere. But there are certain credits (other than stellar and featured-player billing) which definitely do count to an increasing proportion of the nation’s ticket-buyers. These are the three key “behind-the-screen” aces of production—the Producer, the Director, and the Director of Photography.

The fact is well known that if a picture is credited to a certain producer or director—a David Selznick, a Cecil De-

Mille, a Rouben Mamoulian or a George Cukor, for example—a sizeable part of the audience will come because that name, to them, guarantees the type of entertainment they like, regardless of cast or story. But it is not so generally realized that the same thing, to an increasing extent, occurs with the names of the industry’s Directors of Photography.

Yet that is the fact. Today there are over 2,000,000 amateur photographers in this country alone. They—and with them, another huge group of professional and semi-professional still and movie photographers outside of Hollywood—turn for inspiration to Hollywood’s camera-aces. The fact that a picture has been photographed by a Gregg Toland, a George Barnes, a Bill Daniels or an Ernest Palmer is enough to make them want to see that picture, regardless of star or story. They admire that cinematographer’s work; maybe they want to emulate it in their own amateur or professional camerawork; at any rate, they are willing to pay their money to see the picture—*provided they know ahead of time that the man they admire photographed it*. Repeatedly, in talks with or letters from amateurs, we have chanced to mention a picture and its photographer, and gotten the reply, “Oh—did he photograph it? If I’d known I’d have gone to see it just to study his work!”

Would it not, therefore, be a good idea to see to it that the name of the Director of Photography appears on the screen in a position where it can be easily seen and remembered? In some studios this is already done: the credit of the Director of Photography appears regularly at the top of the title-card, in easily-read type and position. But in others, it is too often buried at the bottom of the card, all but hidden by the names of writers, musical arrangers and conductors, set-dressers—everyone but the studio gate-man—names that do *not* carry weight with any appreciable fan-following.

Secondly, the Cinematographer’s name should certainly be included in at least some of the press-releases on a film. It would give the publicists, the exhibitors, and the newspapers something a bit out of the general run of banal blurbs to use in the local exploitation of a picture, and—it would sell additional tickets. There is no doubt but that many additional admissions to “The Little Foxes” were sold simply because it was well publicized that Gregg Toland photographed it; audiences had seen or heard of what he did in filming “Citizen Kane,” and were actively interested in seeing what he did with his camera in the subsequent release.

That widespread and growing interest in the men whose cameras put Hollywood’s productions on the screen is there, and waiting to help sell tickets. What is the industry going to do about it?

PHOTOGRAPHY OF THE MONTH

BIRTH OF THE BLUES

Paramount Production.

Director of Photography: William C. Mellor, A.S.C.

Anyone who thinks that because a picture is a more or less routine Bing Crosby musicomedy it should be subjected to routine "comedy" camerawork ought to be forced to see "Birth of the Blues." As entertainment, the picture is well up to the Crosby standard for verbal and visual comedy; but photographically it is anything but routine. For Director of Photography Mellor has presented it with definitely dramatic photography which enhances its value both as a production and as entertainment. "Birth of the Blues" is one of the finest photographic jobs this reviewer has screened in several months.

Mellor has filmed the picture in a rather low visual key, yet without at any time losing the value of any of the comedy action. His lightings and compositions are strikingly effective, and even in some of the more highly-keyed sequences of musical numbers in a brightly-lit cafe, and the like, he maintains an altogether pleasing quality of modelling, diffusion, etc. This pleasing quality is made doubly noticeable by the fact that in one number—"The Waiter, the Porter, and the Upstairs Maid"—there are several scenes which appear to be retakes, filmed in very ordinary style by some other cinematographer. These stand out like the proverbial sore thumb, and detract from an otherwise beautifully-photographed picture.

In one sequence a very clever use is made of Technicolor. This is the one in which Crosby sings "By the Light of the Silvery Moon", accompanying tinted slides in an old-time nickelodeon. The slides are shown in color, with the rest of the scene in crisp black-and-white. The effect is excellent.

Mellor's treatment of the players is, as might be expected, first-class, especially in the instance of the not too easily-photographed Mary Martin. His effect-lightings are notable, especially in the sequence where Bing Crosby and a negro chorus sing "St. Louis Blues" at the bedside of the injured Rochester. All told, "Birth of the Blues" is a photographic treat, as well as good eye-and-ear entertainment.

APPOINTMENT FOR LOVE

Universal Production.

Director of Photography: Joseph Valentine, A.S.C.

"Appointment for Love" is by long odds the best work we've seen come from the camera of Joseph Valentine, A.S.C., in a long time. Some of his other recent releases we've considered rather "spotty" and far below par for this cinematographer; but in "Appointment for Love" he has turned in one of the most finished camera-jobs of his

career. He handles the players with his customary skill (though we'll admit we don't think his work was helped by the coiffure affected by Margaret Sullivan), and his set-lightings are delightful. His lighting adds a definite note of reality and charm to Jack Otterson's attractive sets, and is well worth study by both professionals and amateurs. There are a number of especially pleasing effect-lightings, too.

SWAMP WATER

Twentieth Century-Fox Production.

Director of Photography: Peverell Marley, A.S.C.

From start to finish, "Swamp Water" is a parade of extremely interesting effect-lightings. Laid in and about Georgia's mysterious Okefenokee swamplands, it is truly remarkable the way stock-shots made on the actual location have been intercut with production scenes filmed on the swamp sets designed by Richard Day and Joseph C. Wright. Ordinarily, it is very easy to say where the actual location-shots leave off and the studio-made portions begin; but in this instance, due to the skill of the art directors and the remarkably fine coordination between director of photography Marley and the uncredited "second unit" cinematographer who filmed the location scenes in Georgia, it is virtually impossible to tell which is real and which is studio-made.

Marley handles his cast excellently, in a realistic and un-glamorized manner which is perfectly keyed to story-requirements. His effect-lightings, which constitute the greater part of the picture, are particularly notable. A purist might very well object that in many of these shots too many lighting-angles are used to be completely realistic; but Marley has maintained an excellent mood, which fits more perfectly with the dramatic mood of the action, probably, than strictly realistic, single-source lightings could have done.

THEY DIED WITH THEIR BOOTS ON

Warner Bros.-First National Production.

Director of Photography: Bert Glennon, A.S.C.

This cinemazation of the swashbuckling life of General Custer, of "last stand" fame, is an almost perfect example of what a big-time action picture can be. Bert Glennon's photographic treatment is outstanding—strongly dramatic, yet never intrusive. In many respects it is the best camerawork we've seen in a long time on one of these Errol Flynn action epics.

An extremely striking feature of the picture is the fact that with the exception of perhaps a couple of scenes on a moving train, there is not a single process-shot in the picture. To make this more unusual, the story centers around a swashbuckling cavalryman, and

is replete with scenes of "Custer" leading cavalry charges and similar action. Ordinarily, such scenes would be done almost automatically as projected-background process-shots; but in this case, thanks to having a star who is actually an excellent horseman, and a Director and Director of Photography willing to go to additional trouble for the sake of greater realism, these sequences—even to close-ups of the star leading the charge—were done by straightforward methods. The result is excellent. There are some slight technical imperfections, it is true, as might be expected; but the net result is probably a good deal more convincing dramatically than would be technically perfect process-shots of so beautiful a specimen as Flynn, who might reasonably be expected to prefer process-shots to actual hard riding which might conceivably be dangerous to his handsome profile! Particularly high credit is due to Glennon's operative crew for the way they have handled these difficult scenes.

Though few, if any, process-shots were used in the production, very extensive use was made of matte-shots. These are excellent, and reflect high credit on the skill of matte-painter Paul Detlefsen, and the special-effects staff of Byron Haskin, A.S.C., who transferred them to film.

On the other side of the ledger, it must be pointed out that several of the exterior sequences—especially those laid at Ft. Lincoln—seemed much too contrasty, with strong highlights and unrelieved shadows which did not blend well with Glennon's expert handling of the rest of the production. A more general use of reflectors and "boosters" would certainly have helped, even though the problems created by the many dark-blue, unreflective army uniforms was at best a difficult one. One or two of these scenes, too, had the appearance on the screen of being just on the verge of underexposure. It seems likely that the use of coated lenses and possibly of an incident-light type of meter would have been helpful in making these sequences. However, these slips are minor, and not enough to detract seriously from Glennon's very excellent photographic work on the production as a whole.

TEXAS

Columbia Production.

Director of Photography: George Meehan, A.S.C.

Director of Photography George Meehan, A.S.C., has done a pleasingly capable job of camerawork on "Texas," and Laboratory-Chief George Seid has presented it in an excellent, sepia-toned print which heightens its effectiveness.

As a matter of fact, "Texas" isn't inherently a particularly pretentious picture, and with commonplace camera-

treatment, it could very easily have degenerated into a commonplace "western." But Meehan's intelligent handling of the camera lifts it above the routine class, and makes it a much more interesting picture than might be expected. His treatment of the players is excellent, especially as regards the character-lightings used on the men.

Meehan has rather more effect-lighted interiors, and exterior night-effects than is common in a picture of this type, and he has handled them very well indeed. The more conventional day-effect exteriors are well done, too, though once or twice he was working against the obvious handicap of a "bald-headed" sky, and undoubtedly wished for the aid of one of the cloud-machines Twentieth Century-Fox has recently found so useful.

THE DEVIL PAYS OFF

Republic Picture.

Director of Photography: John Alton, A.S.C.

Photographically speaking, this is by far the best camerawork we've seen emerge from the Republic Studio. John Alton's camerawork is of definitely major-studio calibre, combining fine photographic quality with dramatic feeling and pictorial effectiveness. A melodrama, the photography is naturally keyed in a melodramatically crisp tone of sharply-contrasted black-and-white, but with an excellent gradational scale, to boot. Alton's compositions are very effective, and his lightings do a great deal to add "production value" to sets and action. Here and there, however, are a few long-shots made in the Republic tradition, which do not match at all well with the rest of the picture.

Technically as well as dramatically, the highlight of the picture to this reviewer is the nightmare sequence, in which the villainous ship-owner dreams he is beind tried by a court in which witnesses, prosecutor, judge and jury are composed of duplicates of the ship-captain he believes he has murdered. This is accomplished by some excellent trick photography. The effect is heightened by Alton's angles and lighting, and by the introduction of artificial reverberation in the sound. All told, it is very effective. The change of lighting which begins and ends the sequence is an excellent transition, which certainly should not be overlooked.

KEEP 'EM FLYING

Universal Production.

Director of Photography: Joseph Valentine, A.S.C.

Special Photographic Effects: John P. Fulton, A.S.C.

Aerial Photography: Elmer G. Dyer, A.S.C.

In many ways the most amusing of the Abbott and Costello comedies, "Keep 'Em Flying" suffers from the weakness that has marred all of its predecessors, with the possible exception of the first one, "Buck Privates," which we did not

see. In an effort to capitalize on the popularity of these comedians, Universal has rushed their pictures through production, utilizing two and three units in such haste that there does not seem to have been adequate opportunity for the various cinematographers involved to coordinate their work. As a consequence, all of the Abbott and Costello pictures we've seen have tended to be photographically spotty and uncoordinated.

"Keep 'Em Flying" suffers from this, though possibly less than most of its predecessors. The opening sequences are most indifferently photographed. Then, about the time the two comics get into the U.S.O. canteen where Martha Raye (in her dual role) holds forth, the photography abruptly improves, and becomes somethings more recognizably like Joe Valentine's output. However from time to time throughout the picture there are scenes — particularly long-shots — which do not match at all well with the other scenes in the sequence with which they are intercut.

Valentine has, in the main, done a creditable job, however. Wherever conditions permit, his lightings have been good, and the compositions, while not as striking as some he has done, are at least adequate. His treatment of the players is very good, especially in the case of newcomer Carol Bruce, who he presents much more effectively than she appeared in her only previous screen appearance. His treatment of Martha Raye is also good.

The real photographic stars of the picture, however, are special-effects cinematographer John Fulton, A.S.C., who did an outstanding job on Martha Raye's split-screen dual characterization, and on the process sequences which put the thrill into the climaxing aerial chase sequence. Offhand, we can't remember when we've seen a better example of split-screen and projection-process dual role work than Fulton turned out in making Martha Raye and her "twin sister" appear so convincingly together. And his process-work in the concluding sequence is just as noteworthy.

The aerial camerawork by Elmer G. Dyer, A.S.C., is well up to the usual Dyer standard. And he and the uncredited second-unit cinematographer, John W. Boyle, A.S.C., deserve a very big share of the credit for the picture's success for the expert way they have handled the thrill and chase sequences. So, too, do Ralph Cedar, who directed these sequences, and Paul Mantz, who did the really spectacular stunt-flying. All told, they've combined to turn out some thrilling laughs in a way that has been too-long absent from modern films.

ONE FOOT IN HEAVEN

Warner Bros.-First National Production.
Director of Photography: Charles Rosher, A.S.C.

Photographically and dramatically, "One Foot in Heaven" is one of those pictures which begins unspectacularly

and slowly and quietly builds to a strong climax. After a brief introductory sequence where Frederic March informs the parents of his bride-to-be (Martha Scott) that he has decided to enter the ministry, the scene shifts to the drab little Iowa town in which the young parson has his first charge. At the same time, Rosher shifts the mood of his camerawork to heighten the dramatic impact of this transition. He keys his camerawork in a strongly realistic—almost documentary—mood, accentuating the drabness of the setting. And he handled this mood-establishing sequence, it may be added, under some considerable difficulty, for schedules forced him to shoot this sequence, portraying a drab, muddy little Iowa town of thirty-five years ago (and how muddy those Iowa towns could really get in such weather!) on an actually bright, sunny day. He has done exceptionally well in subduing the natural brightness, and substituting flat, drab effects.

From this start, he carries on through the picture, accentuating the ugliness and drabness of the small-town churches and parsonages in which his characters dwell, until suddenly at the end of the picture you come into a realization of what an outstanding example of exquisitely-keyed mood photography you've seen. In the climaxing sequences, both Rosher's photography and the direction built strongly to genuinely outstanding dramatic effects.

Rosher's handling of the players is, as usual, excellent. It is really remarkable how he and Make-up Artist Perc Westmore have joined their talents to revivify March for the earlier sequences, which present him as a young man. Certainly March is no longer a juvenile—but between skillful make-up and camerawork, years have very convincingly been taken from his appearance. The aging of this player, and of Martha Scott, is also very expertly done.

An interesting side-light on the production is the fact that one entire sequence, in which March inspects a big California Church the pastorate of which he has been offered, was filmed actually within one of Los Angeles' largest Methodist churches. Rosher handles this excellently, making it perhaps even more impressive and realistic because of the technical limitations he faced than if he had been working on a studio set. Yet on the screen there is no tiniest hint of those limitations. The sequence, too, in which March and his son attend a 1917 movie—using actual excerpts from an old Bill Hart "western" of the period—is interesting in more ways than one. Byron Haskin's special-effects staff have done an excellent job in this, especially in the way they've handled scenes shot at the old 16-frame silent-picture speed without unduly speeding up the action when the scenes are shown at today's 24-frame sound speed. The improvement of photography shown in these scenes is also well worth seeing.

TESTING AGFA'S NEW SUPER-SPEED 8MM. FILM

By CLAUDE W. A. CADARETTE

Founder, L. A. 8mm. Club

THE announcement made by Agfa-Ansco which introduced their new high speed 8mm. Triple-S Pan Reversible Film was enthusiastically received by all users of amateur motion picture equipment. As it is three to four times faster than any previously-available 8mm. emulsions, it contributes greatly to the possibilities of making well-exposed scenes under extremely adverse lighting conditions. While this added speed is not essential for normal sunlight photography, excellent exposures can be made at the late hours of the day where the light intensity is too low for regular panchromatic stock. It is my opinion that this new film was not intended for extensive use in sunlight as the speed of the older types of 8mm. film is adequate for most normal exteriors.

The new innovation gives to the amateur a parallel of film speeds which has previously been accessible only to the professional cameramen in the studios. In the same manner that a cinematographer uses a fast film on stage sets and slower films for outdoor locations, the amateur may now plan his shooting schedule so that the interior shots may be made with Triple-S film and then revert to regular panchromatic stock for his outdoor work.

Triple-S film has a full panchromatic color sensitivity and is, I believe, more sensitive in the red end of the spectrum, which thereby increases its efficiency under photoflood lamps.

It is a known fact that the increase in a film's speed also increases the degree of contrast between highlights and shadows, yet it is evident that Triple-S still retains the proper tonal gradation, which is essential for superior projection results. It has been observed that the film has a wide latitude to correct errors in exposures, yet the fine-grain quality is not badly decreased when an underexposure has been forced in development. In spite of the speed, the image on the screen is needle sharp even when exposed at wide lens apertures.

The advantage of having fast film, however, is not simply that less light may be used when filming. The advantage lies also in the fact that your lights may be used further from the subject, allowing more working room, and also the cameraman may film at smaller apertures of $f:5.6$, $f:8$ or $f:11$, thereby increasing his depth of field.

If the cameraman made a scene at

$f:4.5$ on regular panchromatic stock, he can now shoot the same scene at $f:9$, also increasing his depth of field from four feet to a possible eighteen feet. This is extremely valuable for indoor motion picture work where a large number of people are in the scene, or where depth is needed in a medium closeup.

As stated before, all fast emulsions show a tendency to be more contrasty and it is suggested that your subjects be lighted with a flatter lighting than previously. By lighting in this manner, you will retain the gradations of tones which were obtained on slower emulsions.

For portrait lighting, a key-light may be placed to light three-fourths of the face, using a kick light to lift the shadow side. A small spot placed at the side of the camera will blend the line of demarkation between the highlights and shadows and add a strong highlight in the eyes. The back-light can be placed farther back than formerly, yet afford a strong shoulder-light rim to separate the subject from the background. Filming a setup in this manner at $f:8$ or $f:11$ creates a very sharp picture which in some cases may be almost too sharp. However if the light sources are diffused, and picture assumes a softness without losing the illusion of reasonable sharpness.

I have found that closeups which were shot at stops of $f:11$ and $f:16$ did not increase the contrast when the subjects were lit semi-flat, but when the shadow-lifting lamp was turned off, the contrast became extreme.

A very natural lighting effect was captured by throwing all lights on the white ceiling and using only one back-light. This gave the appearance of natural room-lighting and the faces were well modeled. The background did not have shadowed corners and the room seemed to be lighted from a high light source. My subjects also commented that this lighting was easier on their eyes.

Not being certain of the Weston meter rating for Triple-S, I used a speed of 80. This proved to be correct for use with a 400-Watt projector.

The problems of lighting broad expanses of background are now eliminated and although some dark shadows may appear, these can be easily removed by using regular 100- or 150-Watt lamps or even a slide-projector bulb behind furniture. It is amazing how this film

penetrates the background even though it is poorly lighted. It is possible, due to the increased contrast, to light your subject semi-flat, but cast interesting shadows on the background for a more pictorial, professional-looking effect.

In long-shots, scenes can be lighted with a minimum amount of front light, and strong lights kicked in from side angles to model the subjects, using one high back-light for a third-dimensional effect.

Interesting low-key effects may be lighted only by baby spotlights working at a considerable distance from the subject. A main light-source of low intensity can be used to record the necessary details of the background.

On scenes of this nature, the light intensity of the subject should be three times greater than the background. If the reading on the subjects calls for an opening of $f:8$, the reading on the background should be approximately $f:5.6$. When filmed at $f:8$, the background will contain sufficient light to expose the details, yet the correct exposure is on the subject.

It is to be hoped that the amateur cinematographers will not economize on the amount of light used in motion picture work due to the exceptional speed of Triple-S pan, but will profit by the use of more diversified lighting setups. The problem of obtaining exposure is gone, but interesting and more pleasant effects are within reach, and it seems to me the cameraman's efforts should be exerted along the lines of pictorialism rather than lamp economy. This film will photograph a person's face with the light of a single match; but that is merely an effect shot. Lights in quantity are still needed for proper modeling and highlighting. If economy is used on lights and the film results are not good, it will not be due to a failure in the Triple-S emulsion.

Daylight filming with Triple-S should be confined to the days of poor light, as the extreme speed of this film did not give correct exposure until a 4X red filter was used at an $f:16$ stop in full sun. Obviously, this speed is not necessary for ordinary filming and it is far better to use a slower emulsion such as Hypan for regular sunlight. The color-sensitivity of Triple-S gives better renditions when used with the red-predominate photoflood lamps. In spite of this high red sensitivity, the lips of a person and red-colored objects do not wash out, but seem to retain their proper balance with other colors. As a consequence, it is not necessary to use a green filter to maintain this balance which is usually a fundament when shooting highly red-sensitive emulsions.

To those who like to film indoor hockey games, skating exhibitions, night clubs, stage acts and other amusements, the results will be more pleasing with Triple-S as the normal illumination at such places is usually sufficient for a stop of $f:2.8$ or $f:3.5$ with a film of this speed, for this film automatically converts an $f:3.5$ camera to a speed of $f:1.5$ or better. END.

Carry Your Compositions with You

By JEROME H. ASH, A.S.C.

DID you come back from your vacation, only to look at your films and feel a bit disappointed at their shortcomings in composition? I thought so! Even in our best vacation paradises, the landscape isn't always laid out to allow for the most effective photographic composition.

Probably the commonest trouble is that, even if you've got a wide-angle lens or a Hyper-Cinor attachment to use, you can't get the sort of pictorial foreground to frame your scenic long-shots the way you would like to see them. Maybe you need just a little something—a bush—a pile of rocks—in the lower foreground. Maybe you need some sort of a framework of branches overhead to frame your composition or subdue a "bald-headed" sky. Maybe you need both.

There's no point in saying, "Well, nature didn't put anything there to complete my composition, so I'll just have to make the best of it." If professional cinematographers—especially those filming Westerns and outdoor pictures generally—took that attitude, well, you'd have a lot lower estimate of our artistic capabilities than we hope you have.

The answer is to carry your compositions with you. Nine times out of ten, all you need to complete your composition is just a little object to make the foreground complete. You can easily carry a few props of this nature around in the tail-compartment or rear deck of your car. They won't take up much room—and when you need them, they're right there, and you can get them out and use them just the way the professionals do.

For example, suppose you're making a roadside landscape-shot like the one shown in the sketch. But—unlike the sketch—the composition nature and the State Highway Department offer you is just a road going over a hill, with nothing at all to make the foreground an interesting part of the composition, and nothing to screen the bare, cloudless sky.

Here's how the professional might tackle the problem. In the foreground, he'd place a box. On the box, he'd make an interesting little pile of rock, stones, and the like, with perhaps a bit of shrubbery peeping up here and there if it can be made to look natural. And he'd line up his camera so that the lens sees only the little foreground "set-

piece," and not the box-top that supports it.

To provide the necessary framing at the top of his composition, he would dig into the prop-box and come out with a leafy branch—not necessarily a big one, just a sprig a couple of feet long. And he'd have his assistant hold it in place in front of the lens, so that the branch provided a framing element, just as though it was growing from a handy tree, but, of course, being careful not to show the assistant's arm, or his shadow, which would give the trick away.

If you're a bachelor, and haven't got an assistant, you can use a spare lamp-standard or tripod, or even knock together a little support out of a few pieces of wood to which you can nail or clamp your branch and still have it held steadily in the right position.

Incidentally, if for any reason you have to make an "insert" of the pages of a book or newspaper, and want to make it more photographically attractive than the usual unadorned, flat-lighted shot of a page of paper, you can use a variation of this same trick. Hold a leafy twig, a spray of flowers, or the like in such a way that they cast a

decorative shadow on the page. Notice, by the way, how generally this trick is used in most professional pictures—and remember it is just as effective in home movies. Maybe even more so, since the home movie audience isn't expecting it!

This sort of trickery can be used in many different situations and ways. For instance, if you're in the desert, and need a natural-looking foreground, you can prop up a cactus or similar desert plant in the place where it will make your composition most effective, framing your shot, of course, so that you don't show the props or other supporting means. (If you're an Easterner in some of our western deserts, though, I'd check up a bit before uprooting local flora for this trick; some of 'em, like California's Joshua trees, and some types of cacti elsewhere, are protected by law, with a stiff penalty for people who uproot or injure them!)

To do these tricks with the utmost freedom, you'll really need either a camera which, like some of the magazine types and the Cine-Special, you can focus the full frame through the lens in actual photographing position.

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Simple "props" in foreground can complete the composition of many an otherwise uninteresting scene.



Making Wipes in the Printer

By HARRY ZECH, A.S.C.

ONE of the most frequent questions cine-amateurs—and 16mm. commercial filmers, too—ask those of us who specialize in 35mm. special-effects cinematography is how to make “wipes.” Not the elementary kind, in which a black area simply slides in from one side or the other and “blacks out” the scene, sliding away again to reveal the second scene; those can be made easily enough by simply sliding a black card or matte in front of the lens, or by after-treatment with Scotch Tape and Fotofade. What these amateurs and 16mm.-pro’s. want to know about is how to make true “wipes,” in which one scene wipes the other off the screen.

Professionally, of course, we do it by means of an Optical Printer, which is a good deal too intricate for amateur use, and (especially under today’s conditions!) rather too expensive for all but the biggest 16mm. commercial organizations. But there are two other methods of getting wipes which can very well be used with substandard film.

The DeLuxe way to go about it, of course, is to fit your camera with one of the several wipe gadgets that are commercially available, and shoot your wipes right at the time you shoot your scene. The best of these devices have either a straight blade or a spirally-curved disc-shutter, mechanically geared to the mechanism of the camera so that when you throw them “in gear” the blade moves across in front of your lens; then you rewind the film to the starting-point of your wipe, shift the blade to the “wipe-in” position, and make your second scene: the moving blade, mechanically synchronized with the action of the camera, makes the “wipe-in” exposure on the second scene in the area matted off during the “wipe-out” of the first take.

But this method has several drawbacks. In the first place, it calls for the purchase of extra equipment, which isn’t always too pleasing to the bankroll. Second, in forces you to shoot the two “wiped” scenes in consecutive order, which isn’t always convenient. And—most important—it doesn’t help you a bit when you want to “wipe” a pair of scenes on film already processed.

If you make your pictures in 16mm., though, there’s another way of making wipes which not only avoids all these difficulties, but gives you a chance to make an almost professionally wide variety of wipes.

That is to do it in the printer. If you’re one of the many cinefilmmers who use 16mm. negative-positive and enjoy home processing, this method is a nat-

ural for you, and will add greatly to your enjoyment of both your laboratory-work and your pictures. In a pinch, it can be worked with reversal stock—even Kodachrome—though this calls for special skill in duping.

Let’s see, what do we need beside two strips of developed negative and a printer, in order to print a wipe on a piece of unexposed positive—? Well, we’ll need a matte for printing the first scene, so that appropriate areas on each frame will be left unexposed for printing the “wipe-in” of the second scene. And we’ll need another matte—precisely the reverse of the first one—to protect the already-printed areas of the first scene when we print the second half of the wipe and the second scene.

This sounds hard, but it isn’t. To make the matte, load your camera with positive film and set it up in your titler. Put a WHITE card into the titler, and shoot enough footage of this to equal the un-wiped length of Scene A. At the point where the wipe is to start, take a flat BLACK card and slowly slide it on from one side or the other, while the camera keeps grinding, of course. Then photograph enough footage of this black card to equal the unwiped footage of Scene B.

Next, develop this film in the contrastiest title-developer you can get. Eastman’s “D-9” developer is very good for this. It is made from two Stock Solutions, as follows:

Stock Solution A

Water (about 125 F.).....	16 ounces
Sodium Bisulphite	$\frac{3}{4}$ ounce
Hydroquinone	$\frac{3}{4}$ ounce
Potassium Bromide	$\frac{3}{4}$ ounce
Cold Water to make.....	32 ounces

Stock Solution B

Cold Water	32 ounces
Sodium Hydroxide (“Caustic Soda”)	1 $\frac{3}{4}$ ounces

In making up Stock Solution B, cold water should always be used, as dissolving the caustic in water generates a lot of heat. Solution A should be stirred thoroughly when mixing with Solution B, to avoid precipitation.

For use, mix equal parts of A and B, and develop two or three minutes at 65°F. After development, wash the film thoroughly between developing and fixing, to avoid stains and chemical fog.

This gives us one of the two mattes we need—one which is opaque for the footage of Scene A, and in which a clear area wipes in and then leaves the matte clear to permit printing Scene B. This is usually called the “negative matte.”

To make the other matte we need—called the “positive matte”—simply make a print from the original “negative matte,” and develop it in the same high-contrast developer. This gives us a matte which is clear film at the begin-

ning, with the opaque matte sliding in and “blacking out” the frame from the wipe to the end of Scene B’s footage.

Now we’re ready to print the wipe itself. The first thing to do is to determine a definite starting-point in the various strips of film involved—the unexposed positive upon which the two scenes and the wipe are to be printed; the two negatives, and our two mattes. You’ll make things a good deal easier if you splice a length of leader equal to the footage of Scene A ahead of the negative of Scene B. The simplest way of marking this start is to nick out little crescent-shaped punch-marks in the edges of the film.

Now place the second matte—the “positive matte,” which started with clear celluloid—into the printer. Over this, place the negative of the first scene. Last of all, put on the unexposed positive film. *The matte must never be between the negative and the unexposed positive, as this would throw the print out of focus.*

Now print your first scene in the usual manner. When the opaque part of the matte (which, you’ll remember, was made by sliding a black card into the titler’s field) slides into the printing aperture, it will make half your wipe for you, progressively blocking off more and more of Scene 1 from printing, and leaving that area unexposed.

Next, rewind the positive film upon which you’re printing, and repeat the operation, using the negative of Scene B, and the “negative matte,” which begins as opaque black frames and wipes to clear celluloid. You get the three films—the matte, the negative, and the partly-printed positive—in register by means of the little starting-point notches you’ve already made. The opaque matte protects the scene already printed from being exposed. As the wipe commences, clear celluloid wipes out the opaque area, and allows Scene B to print through. As the two mattes are exactly complementary, you print in the wiped-in scene on just the unexposed areas left when you printed the wipe-out part through the “positive matte.” Then, of course, you continue, printing Scene B in the usual way.

If you’ve registered your starting-points right, you’ll get an excellent wipe from this, with Scene B sliding into the frame and wiping Scene A off the screen. Simple, isn’t it?

What’s more, you can extend this basic principle to give you an amazing variety of wipes of all types and patterns, just by photographing different patterns of white and black in making your matte. For example, you can make a “barn-door” wipe in which Scene B wipes in from both sides at once, or suddenly starts at the center and spreads

outward to both sides of the frame, by simply using two black cards, sliding them in from both edges at once, for the first type of wipe, or pulling them apart from a meeting-point in the center of the frame, to make the second type of wipe. (In this latter case, this original matte becomes the "positive" matte, for printing Scene A, and the second matte, printed from it, becomes the "negative" matte used for printing Scene B.)

Of course you can have these "barn-door" wipes move in any direction you want—across the film laterally or vertically, or diagonally. By varying the shape of the two cards, you can get further variations. If a V-shaped notch is cut in the edge of each card, you can get a diamond-shaped iris-in or iris-out effect. If you cut a series of smaller "V's," the effect will be a "saw-tooth" wipe. You can, by using only one of these saw-edged cards, and moving it saw-wise as well as out, get a "sawing" wipe, by the way.

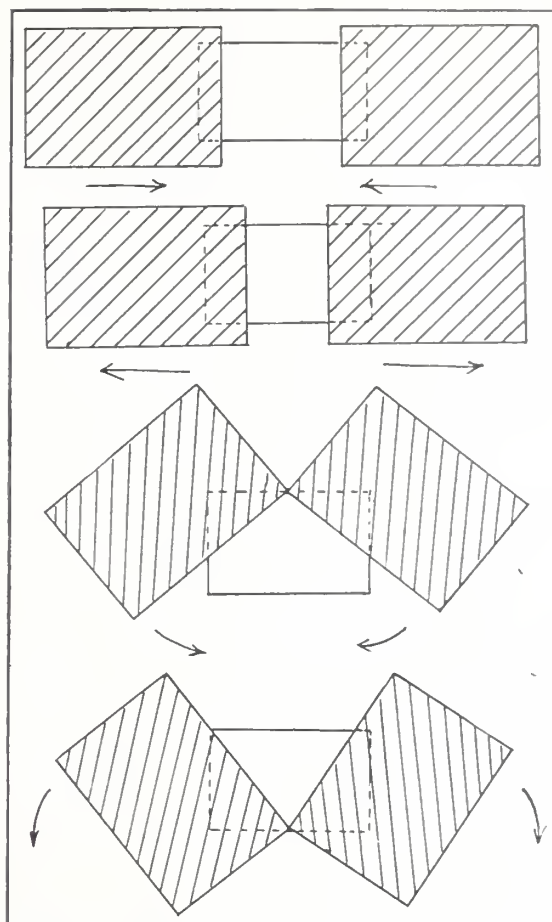
Another interesting two-card wipe is made with the two black cards dividing the frame either vertically or horizontally, and moving the cards in opposite directions. If, for example, they move horizontally, the top half of the first scene might start wiping off at, say, the right side of the screen, while the bottom half would start at the left-hand side, and the incoming halves of the second scene will wipe in from these two opposite directions. If you use three cards, you could have, say, the left-hand third of the scene wipe upward; as soon as this was finished, the center starts to wipe downward, and finally the right-hand third would wipe upward.

If you want a fan-like wipe, you can do it by using one black card, pivoting it at one corner of the frame (usually the lower right) and swinging it up into the picture. Or you can use two black cards pivoted at the bottom center of the frame and swung in or out together. If they swing in, Scene 2 will wipe in from the edges, like a Japanese fan being closed. If they swing out, Scene 2 will appear in the center of Scene 1's frame and fan outward, like a fan being opened.

You can also pivot the two cards at corners of the frame, and work them in together—pivoting one at each lower corner, or one at a lower corner and the other at the upper corner diagonally opposite, or one at top center and the other at bottom center, working them in opposite directions.

Perhaps the most effective of these wipes is one made with four black cards, one pivoted at each corner of the frame, and all four swinging in together. This really calls for several helpers, if the cards are to be managed well, but the result is quite spectacular.

There are several other kinds of wipes which you can make by substituting other opaque, black things for the black cards. For instance, there's the "melting" wipe which has sometimes been used professionally, in which one scene seems to run and melt into the other.

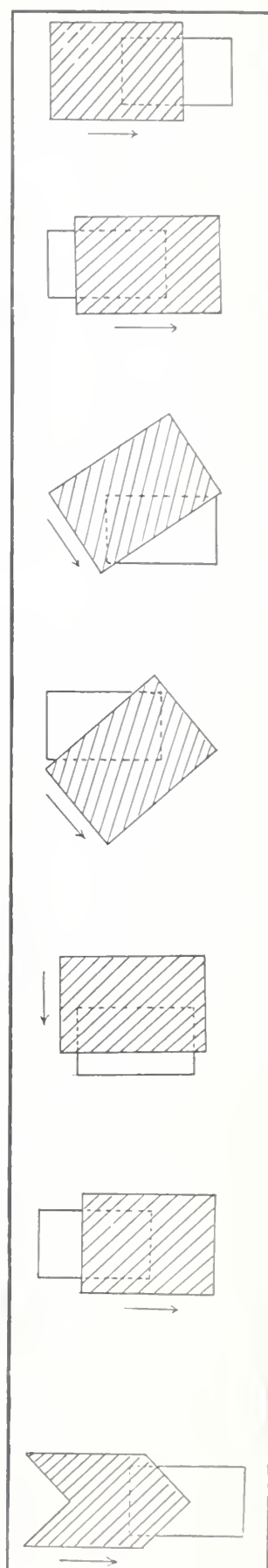


Just place a pane of clear glass in front of your white card, and make a little V-shaped trough along the top of the glass. In this trough put some dark, fairly heavy oil, and tilt the trough so that the oil runs out all the way across the top edge of the glass. As the oil runs down the glass, it will run irregularly and, being black, will "black out" the white card in the melting pattern you want. Be sure, of course, that your oil is really opaque, and that your lights won't reflect in either the glass or the oil. Don't try to use light household oil, though; it runs too fast. And if you can't get black enough oil, simply mix in a little lampblack.

If you can shoot "stop-motion," exposing only a frame or two at a time, there are some other matte tricks you can add to your repertory of wipes. For instance, if you can stand your title-board on end, you can make an interesting "polka-dot" wipe. Take a number of black cardboard discs or poker chips and, when you've exposed the requisite footage of the white card, stop the camera and drop a disc or two onto the white card. Expose a couple of frames, stop the camera, drop in another disc, and so on until the overlapping black discs completely "black out" the frame. On the screen, bits of Scene 2 will appear suddenly in Scene 1 wherever a disc is dropped.

Using stop-motion, you can also animate a lot of other interesting wipes. For example, begin with a number of fine black lines drawn across your white

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Above, moving cards to produce mattes for various types of wipes. On opposite page, a wipe like this can be made in the printer, using a four-card matte.

Amateur lenses make "pan-focus" effects like this one from "Citizen Kane" easier for the amateur than for the professional.

"PAN-FOCUS" FOR YOUR HOME MOVIES

By JOHN MESSALL, A.S.C.

EVER since the release of Gregg Toland's "Citizen Kane," all of us—professional and amateur—have heard a lot about the "pan-focus" technique he used in that picture to obtain startlingly increased depth of field. We 35mm. professionals have been rather sharply divided as to whether we liked it or not; but most of the 16mm. and 8mm. cinefilmmers I've run into have admired it greatly, and wondered how it could be applied to their own home filming.

As a matter of fact, there's no special mystery about Toland's "pan-focus" technique. I'm sure he would be the first to point out that in it he has simply put some modern materials and some old, established photographic principles to work for him to get the effects his picture needed. With the exception of the fact that Toland was able to employ coated lenses, which are rather expensive luxuries for the non-professional, and are lighting (necessary largely to penetrate deep, roofed-in sets) *the amateur has available everything Toland used to get his "pan-focus" effects. And they'll work even more effectively in 16mm. or 8mm. than in 35mm.!*

Let's analyze just what Toland did. Knowing that with any lens the depth of field increases as the lens is stopped down, Toland filmed virtually all of "Citizen Kane's" interior scenes with his lens stopped down to $f:8$, and a few scenes at even smaller stops. Since depth of field increases as the shorter-focus, wider-angled lenses are used, he

made extensive use of wide-angle lenses. To make the small-aperture exposures practical, he lit his sets much more brilliantly than would ordinarily be necessary, and made use of the fastest 35mm. film available—Eastman's "Super-XX," which has a Weston speed-rating of 64 to Incandescent light.

The funny thing about all of this is the fact that every one of these tricks can be worked with 16mm. or 8mm. film going through your home movie camera—and because of certain basic mechanical and optical advantages inherent to substandard apparatus, they'll work even more effectively!

First, let's take those "short-focus" wide-angle lenses Gregg used. In 35mm. practice, a wide-angle lens usually means a 24mm. That's about equivalent to the *normal* lens used in 16mm. work—the 25mm. or 1-inch objective. When you talk about a wide-angle lens in 16mm., you mean a 15mm., while 8mm.-users normally employ a 12½mm., and for really wide-angle work they use either a 9mm. or a Hyper-Cinor attachment which reduces the effective focal length of their normal lens to something like 7mm.

In practical terms this means that the home moviemaker has available lenses which will give him almost double the depth possible in 35mm., even with full allowance made for the greater proportional enlargement in projecting substandard film. For example, focused at an object 8 feet from the camera, the professional's 25mm. lens, used at $f:2.8$,

will give him an acceptably sharp picture of everything from 5 feet 2 inches from the lens to 18 feet, and at $f:8$, from 3 feet one inch to infinity. But the 16mm. filmer's 15mm. wide-angle, focused at the same point and used at $f:2.5$, will keep sharp everything between 4 feet 7 inches and 29 feet 4 inches, while at $f:8$, his range will be from slightly under 3 feet to infinity. I haven't available figures for the 8mm.-filmer's wide-angle lenses, but his ordinary 12½mm. lens, focused at 8 feet and at $f:2.5$, will give him a focal range from 4 feet to infinity, while at $f:8$ the same lens will be almost literally a universal-focus objective, keeping everything from about 1 foot to infinity sharp!

From all of that you can see that even with the inherently greater depth in home movie lenses, stopping down helps increase the depth almost magically. It also tends to snap up the contrast of your picture, giving an added illusion of better definition.

Now, how about putting this reduced-aperture business to work?

In Kodachrome, there is of course only one answer: use more light—and lots of it—until your meter says it's OK to go ahead and shoot at the aperture you want to use. But in black-and-white, whether you shoot 16mm. or 8mm., you can do about as Toland did, and make use of super-fast film. In 16mm., for instance, you can use either Eastman's Super-XX Reversal, or Agfa's Triple-S Pan; and even in 8mm., you now have Agfa's Triple-S available. All of these films have a Weston speed of about 64 to incandescent light, the same as Toland's 35mm. Super-XX negative. What's more, Toland's Mitchell, operating at 24-frame sound-picture speed, gave a shutter-exposure of roughly 1/50th second, whereas most home movie cameras, operating at 16-frame silent-picture speed, give you an exposure of 1/30th second, and sometimes even 1/25th.

All of this means that by using these faster home movie films, you can stop down your lens for added depth and still get an adequate exposure using very little, if any more light than you were accustomed to employ with slower emulsions.

For example, suppose you've been accustomed to shooting black-and-white interiors on a film with an artificial-light speed of Weston 24. To get a satisfactory exposure at $f:2.5$ on that film, you'll have to light your scene so as to get a light-value reading of 6.5 on a Weston meter. That same illumination will be enough so that if you use one of the faster 16mm. or 8mm. emulsions (Weston 64 speed) you can stop down to $f:4$. With a 15mm. lens, this means increasing your depth-range from the 4 feet 7 inches to 29 feet 4 inches at 8 feet focus to 3 feet 9 inches to infinity! If you light your scene to the level you'd use for Type A Kodachrome, you can stop down with these super-fast black-and-white films to $f:5.6$.

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TOMMY ATKINS WRITES HOME—ON 16MM. FILM!

By WALTER BLANCHARD

SOMEWHERE off the coast of North Africa, the four motors of a giant British seaplane roar into life. A booming crescendo of sound—a flash of foamy white spray—and the big "Empire" flying-boat is climbing into the blue, homeward-bound for Britain, freighted with precious mail from Tommy Atkins—perhaps 80,000 to 100,000 of him—bringing good news and assurance to the folks at home. Onward she wings her way through the perilous Mediterranean or around the edge of Africa and up the Atlantic, dodging flak shells and Nazi warplanes, until she lands safely at an English port.

When she's made fast to her landing-float, her passengers embark—a score or more of them. Freight and cargo of all sorts are unloaded. But where's the mail? Where are those 100,000 letters for which relatives, sweethearts and friends are waiting so anxiously? Yes, where are they?

I'm afraid you didn't notice it when they came out. It was such a simple thing, you see. Remember when the Second Pilot stepped ashore—? In his hand he carried a small case—you mistook it for an ordinary suitcase—and he handed it without fanfare to an inconspicuous chap in the unobtrusive garb of the British Postal Service.

Oh! You don't see how so many letters could possibly have been squeezed into so small a package, or how one man could have carried a load of letters which, even on the flimsiest of airmail paper must inevitably weigh well over a ton?

The answer is simple enough. You see, those letters weren't on paper at all, but on microfilm strips—16mm. film, to be exact. Technically they're called "Airgraphs," and they're the product of a radically new communications service inaugurated by Eastman's British affiliate, Kodak, Ltd., and the British Postal Service to simplify the problems of getting Tommy Atkins' letters quickly, efficiently and safely back from distant fronts.

Here's the problem that had to be solved. Ordinary letters from the Middle East to England now-days have to travel the whole way by boat; and traveling through war-infested oceans it's a slow and hazardous trip that's measured in months, rather than weeks. Even regular airmail letters have to go part of the way by boat, and require anywhere from a month to five or six weeks for the trip. What's more, letters are bulky things—100,000 of them would weigh just under two tons—and they take up space in either ships or planes that is urgently needed for essential goods. Yet in its way, mail from the boys at the front is an essential, too.

Luckily, for many years the Kodak organization has had equipment and service for microfilm-copying checks, letters, and similar important documents for banks and business firms. It was known as the "Recordak" service, and used by innumerable business firms all over America and England. The "Airgraph" service is essentially this "Recordak" service put into uniform and assigned to a wartime job.

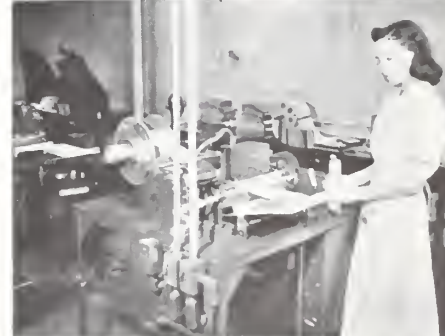
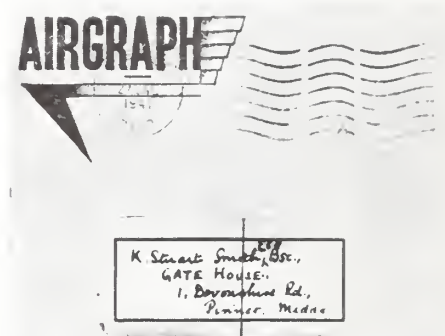
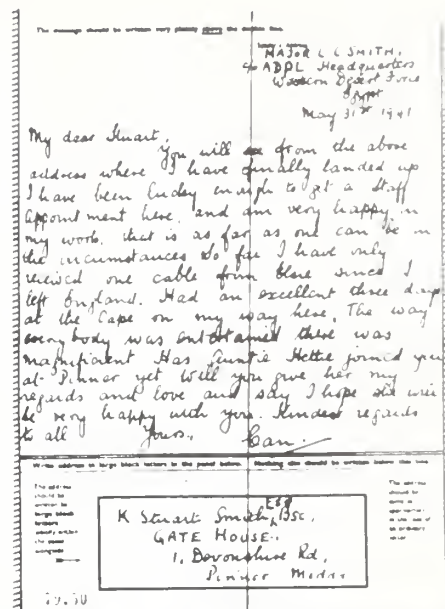
Here's how it works. Out in the Lybian desert Tommy Atkins decides it's time to write to Dad or Mother or somebody else back home. He writes his letter on a special sheet of paper measuring 8½x11 inches (regulation business-letter size). Instead of putting the completed letter into an envelope, he carefully prints the address on a panel at the bottom of the sheet, sticks a three-penny stamp to the back of it, and turns it in at a Field Post Office. There, the form is stamped with a reference number, censored like any other soldier's letter, and turned over to the Kodak "Airgraph" staff.

Here, the sheet is photographed on 16mm. film by a regular "Recordak," such as you can probably see in your home town bank, if you live in or near a big city. The complete letter—message, address and all—is reduced to a single "Recordak" frame, measuring 1½-inch by 5⁄8-inch. A skilled operator can photograph as many as forty of these "Airgraph" letter-forms per minute, and between 1700 and 1800 letters can be put on a single 100-foot roll of 16mm. film. The film bearing these letters weighs only 1/100th as much as the 1700 actual letters it reproduces.

The film is processed on the spot by the Kodak staff, and turned over to the Postal Officials for flying to England.

Arrived in "blighty," the Post Office messenger we failed to see at the dock quickly takes his suitcase-full of film to the Kodak works at Harrow. After checking and examining, the first roll is threaded into an enlarger. Next to the "Recordak" camera, this enlarger, specially built for its job, is the heart of the "Airgraph" system.

Any ordinary enlarger would be exasperatingly slow for handling the mass of correspondence a few divisions of homesick Tommies can send home on even a single plane. So this enlarger is built for speedy, and very nearly automatic operation. The 16mm. film negative travels continuously, moving slowly and evenly through one end of the enlarger. At the other end of the machine, a large roll of sensitized photographic paper moves just as evenly, though faster, through the machine in



Top: an actual "Airgraph" letter; below it, the envelope it arrived in; third, the peace-time "Recordak" which today makes "Airgraph" microfilms; bottom, the special chopping machine which cuts the letters from the roll of enlargements.

the opposite direction. The two movements—of negative and paper—are so

CELILLO

Documentary; 800 feet 16mm. black-and-white.

Filmed by Phil C. Richardson.

Too often the term "documentary" is loosely applied to a picture merely because that film does not fall into any of the usual classes, such as scenario-film, scenic, "home movie," and the like. But "Celillo" is a genuine documentary, and a powerful one. Cinefilmer Richardson has taken as his subject the plight of the Indians at Celillo, Oregon, where the White Man, scrupulously living up to the terms of an ancient treaty granting to the Indians the right to fish at Celillo Falls, has at the same time overlooked other clauses of the treaty which guaranteed the Red Men in perpetuity land by the falls on which to live and to cure their fish. His camera graphically shows the result: the Indians, fearing loss of their fishing rights (upon which livelihood depends) if they move away to a reservation, are forced to exist in squalor along a narrow strip of land hemmed in by the constantly encroaching highway, railway, etc.

This is a field in which the cine-camera is supreme. Words—even from the pen of a Steinbeck—lack the impact of reality, and can, moreover, all too often be distorted to suit a personal opinion. Still pictures are incomplete—lifeless—and may show only a selected part of the truth. But the motion picture, showing everything, can prove its own honesty and present the case in all its pitiful reality.

That is what Richardson has done. Making his picture to tell the unvarnished truth to the Federal and State authorities who can do something to better the Indians' case, and to bring home to the public the need for action, he has turned out one of the strongest and most moving documentaries—amateur or professional—that we have ever screened. It has none of the affected "social significance" of the usual film of its type. It deals strictly in facts, and tells its story all the more forcefully because it avoids theatricality and evidences, necessarily, some technical imperfections.

Technical imperfections it could hardly escape. The scenes had to be filmed under almost newsreel conditions—get them on celluloid when you can—and in spite of often unfavorable weather conditions and scanty cooperation from the Indians who from sad experience look askance at any white man with a camera.

In view of this, we feel Richardson has done an outstanding job of film-making. Often he had to shoot under weather conditions which were distinctly unfavorable. In view of this, his uniformity of exposure, while by no means perfect, is certainly commendable. He ap-

pears to have used at least two different types of film in the project, as there are noticeable differences in contrast and gradation. This, too, can be overlooked when it is realized he executed the whole project at his own expense, driving over two hundred miles to his location each time he wanted to shoot.

From the viewpoint of filmcraft pure and simple, it might have been better if he could have told things in the form of a story revolving around a typical Indian family, as Fred Ellis did with a typical Korean farmer in "Rice." But this was not possible—and the picture may, in the long run, be the gainer because of its strictly factual approach. As it stands, its continuity is excellent, and it gets its message over well.

We might, however, criticize the use of pictorial backgrounds in all of the titles; the background used is excellent for main and key titles, but for the others, it detracts from the readability of the title-lettering. A simpler background would be preferable. We'd also like to see "Celillo" presented with a narrative sound-track, augmenting its pictured message. A few more close shots of the Indians themselves, showing what type of people they are, would certainly help, if such scenes could be obtained. But in general, we can only compliment cinefilmer Richardson for making his picture as he has, and for making so generally excellent a job of it under the adverse conditions which applied.

MERIDIAN HILLS ACTIVITIES

Documentary; 320 feet 16mm. Kodachrome.

Filmed by William E. Gabe.

This is a very pleasant little film of typical activities at Indianapolis' famous Meridian Hills Golf Club, highlighted by some very fine Kodachrome camerawork (not all of it accomplished under ideal conditions) and some of the most spectacular Kodachrome titles we've seen in some time. Cinefilmer Gabe's exposure, under an extremely wide variety of both favorable and distinctly unfavorable lighting-conditions, is outstandingly uniform: there is scarcely an imperfectly-exposed frame in the entire footage. His compositions—especially on some of the long-shots—is also spectacularly good. In a word, his technical handling of the film is well above average.

The picture divides itself into two clearly-defined parts. The first deals with a round of golf played by Craig Wood, Vic Ghezzi, and two local champions. The second part deals with a tea and fashion-show put on by the lady members. Both parts are well handled, and surprisingly well coordinated into a single picture.

The golfing scenes are excellent, not only in the brand of golf displayed (we envy some of those long, successful putts!) but in their cinematic handling. The angles generally are good, with adequate use of moderate slow-motion. Our only suggestion would be that the players should have been more clearly identified individually in the introduction, instead of lumped together on a single title followed by a shot in which all four figured. It would have been much better to introduce each player individually, with a separate title, followed by a close shot of that player alone. Thereafter, if possible, a sprinkling of telephoto close shots of the individual players at different points in the round would have been helpful. A little more personalizing in the ladies' sequence would also have been beneficial.

LATHE PROJECT

Scenario-Documentary; 180 feet 8mm. Black-and-white.

Filmed by J. W. Sovine.

There is some question as to whether this film should truly be classed as a scenario or a documentary film. The maker places it in the former category; to our mind, it is rather more a documentary, the more so since the scenario thread is tenuously thin, and is really evident in only the opening and closing scenes of the picture.

Be that as it may, "Lathe Project" is, in the main, a very creditable picture, and presents some of the sharpest 8mm. we've seen. Its main weakness is its lack of frequent explanatory titles. If one is familiar with lathe-work, the pictorial continuity is good enough so the project can be followed well enough; but it should be taken into consideration that the average home-movie audience is not at all likely to be familiar with any such specialized operation—especially a strictly mechanical operation like turning out a screw on a lathe. Therefore, while the picture might be clear enough to the mechanically-minded as it is, the filmer should show consideration for his broader probable audience and see to it that each step is clearly explained in explanatory or descriptive titles.

The technical handling of the subject is excellent. The operations are shown largely in full-screen close-ups, the difficulty of making which it is not realized until at the end one sees what an actually small screw is being made. The composition, focus and lighting of these shots deserve really high credit. The way the actual size of the screw, and the purpose for which it was made, are concealed until the end of the picture is clever, indeed, and adds an ingenious twist to the end.

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AMONG THE MOVIE CLUBS



Long Beach Has Contest

The November 19th meeting of the Long Beach Cinema Club featured the Club's annual contest. Julian Hiatt, nationally recognized still photographer, Arthur Hoffman and Jack Nicholson judged the pictures, which were divided into three classifications: 16mm., 8mm., and sound. First prize in the Sound Division was awarded to retiring President Mildred J. Caldwell, for her 8mm. Kodachrome film, "Song of Old Hawaii," with synchronized sound-on-disc added by the Synchro-Sound method. In the 16mm. division Forrest Kellogg won first prize for "Painted Valleys;" Clarence Aldrich, second prize for "Ranch Romance," and Ted Phillips, third prize for "Happy Landing." In the 8mm. group Harold O'Neal won first prize for "San Francisco;" Lynn Harshbarger, second prize for his version of "Ranch Romance," and A. W. Nash, third prize for "Horseback Trails." A novel feature of the award meeting was the presentation of the business part of the meeting by means of a transcription previously recorded by the officers. Claude L. Evans and Stanley Jeffcott were welcomed as new members.

The November 5th meeting of the Club featured a 1600-foot Kodachrome sound picture provided by General Electric, detailing the difference between the conventional or "amplitude modulation" radio and the new "frequency modulation" system. Lois Elliott, teacher at Will Rogers Junior High School, screened 2,000 feet of Kodachrome taken in South and Central America. Rushes of a Club production, "Oddettes," were shown by Carl Weldin.

RAY FOSHOLDT, Sec'y-Treas.

X-Mas Films at N. Y. 8mm.

The November meeting of the New York 8mm. Club screened four excellent pictures, headed by a very timely Christmas film made by J. F. Hollywood, nationally-famed exponent of 8mm. and a prize-winner in THE AMERICAN CINEMATOGRAPHER'S International Amateur Movie Contests. Member Roesken showed a short Kodachrome scenic filmed at Acadia Park, Maine, and an interesting, though unedited travel-

Long Beach Winners. Left to right: Ted Phillips; Lynn Harshbarger; President Mildred Caldwell; Harold O'Neal; Mrs. Forrest Kellogg, who accepted Trophy for her husband; A. W. Nash; Clarence Aldrich; and Julian Hiatt, presenting prizes.

film of the South Sea Islands, filmed by a friend of one of the Club members, was also shown. The concluding feature was the showing of a scenario film, "Auntie in Moccasins," filmed by Member Harley. This was by long odds the outstanding feature of the evening, and proved excellently done in all its details.

Aussies Hold War Benefit Show

The Australian Amateur Cine Society scored a smash hit in its most ambitious undertaking to date, a public showing of outstanding amateur films held on October 11th at Sydney's Conservatorium of Music, with the proceeds used to provide a fund for the purchase of Australian amateur films for screening in Air Raid Shelters in England. Despite a regrettable lack of cooperation on the part of the public press, an audience of over 900 gathered to see the films. The programme included the following films: "Warragamba," a scenic filmed by G. J. Menon and Foster Stubbs of the A.A.C.S., fourth-prize winner in the Society's 1941 Sherlock Gold Cup Competition; "City of Sydney," scenic, filmed by James A. Sherlock, A.A.C.S.; "Charcoal," a documentary, filmed by J. H. Couch, A.A.C.S., second-prize winner in the 1940 Jacobs Cup Competition; "Lamington National Park," a scenic, filmed by C. W. Francis of the Queensland A.C.S. and third-prize winner in the 1941 Sherlock Cup; "Nuts to You," a documentary dealing with the Kingaroey peanut industry, also filmed by Mr. Francis; "New Hampshire on Parade," a scenic filmed by Fred C. Ells, of California, the Society's American liaison officer and second-prize winner in the 1941 Sherlock Cup; "Then He Woke Up," a comedy by Frank Brooks; "Romance of Timber," a documentary filmed by F. Barry, of Newcastle; "Brown Men and Red Sands," a documentary of the Australian aborigines filmed by F. P. Mountford of the Adelaide Filmo Club, first-prize winner in the 1941 Sherlock Gold Cup Competition; and "The Court

of Old King Cole," an amateur-made color cartoon, filmed by W. and H. Owen, of the Victorian Amateur Cine Society, winner of first prize in the 1940 Jacobs Cup Competition. A handsome sum was realized at this showing, and a repeat performance is to be given in January in response to public demand.

JAMES A. SHERLOCK,
Publicity Officer, A.A.C.S.

(Editor's Note: Now that this country is at war, American Amateur Movie Clubs will unquestionably be casting about for means in which they can "do their bit." This news from our fellows in Australia comes at an opportune time, giving as it does a useful hint. Many of our own clubs, especially the older and more established ones, have in their libraries and the libraries of their members an invaluable collection of outstanding amateur-made films which the public might well be glad to pay to see. Club shows like this, with a nominal admission charge, should be capable of raising useful sums for the U.S.O. and similar patriotic funds, and we urge club officers among our readers to consider this idea.—THE EDITOR.)

L. A. 8mm. Tests Fast Film

The November meeting of the Los Angeles 8mm. Club featured the making of practical tests of the new super-fast Agfa Triple-S twin-8 Pan film. Messrs. H. De Hoff and Frank Leonard of the Los Angeles Agfa-Ansco branch office explained the new film, and then turned over several rolls of the new product to the Club to be shot at the meeting. Camerawork on these tests was detailed to Past-President Claude Cadarette and Honorary Member Wm. Stull, A.S.C., Editor of THE AMERICAN CINEMATOGRAPHER. Scenes were made at *f*:2.5 and *f*:3.5 using one and two "dinky inkies;" panoramas of the entire audience were made using a single No. 2 Photoflood; other, closer shots were made with normal lighting and stopped-down lenses, and, for contrast, yet others at full aperture and with only normal room lighting. As soon as the tests were exposed, the film was rushed to the Los Angeles Agfa-Ansco laboratory, processed, and returned and projected before the meeting adjourned. The results on the screen showed that the speed of the new film is, if anything, even higher than the manufacturer's claim: even the scenes made under normal room lighting at *f*:3.5 showed a recognizable image, and the long-shots of the audience showed that the single Photoflood carried amazingly clear to the back-wall of the auditorium. Gradation and grain-size were both surprisingly excellent, even though the development had been rushed. The demonstration was acclaimed as one of the finest ever put on for the Club, and the Agfa-Ansco representatives were tendered a vote of thanks for having made it possible.

As soon as the shooting of these tests was completed, shooting of another kind was heard outside, and a masked cow-

(Continued on Page 594)

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EASTMAN NEGATIVE FILMS

16mm. BUSINESS MOVIES

WATER

General publicity film, Kodachrome, narrative sound.

Presented by: City of Yakima, Washington.

Produced and Photographed by: Joseph Yolo.

Direct 16mm. recording by Telefilm, Inc.

"Water" is by no means an outstanding film in itself, but it is an outstanding example of what well-applied 16mm. business-film production can do. Produced by the Water Department of a small city for the purpose of acquainting its customers with the service they are getting, "Water" was made on a slim budget, with necessarily limited facilities. Yet the combination of Kodachrome camerawork and ingenious technical and dramatic treatment have made it a really excellent job. On the screen, it looks like a good deal more picture than it really is.

The picture tells its story graphically, and in the main, quite well. We personally feel that the inclusion of the short sequence pointing the fact that some of the city's water is utilized in the municipal sewage-disposal plant is unnecessary, and a bit confusing, especially at the point where it is used. However, it is likely that the municipal water-experts felt that was an important part of their message, and insisted it be included. We would also suggest that a bit more stress be placed on the fact that the system shown is a gravity-distribution system, and saves the consumer-taxpayer money by eliminating the need of an expensive pumping-plant. A short animation might help this.

Cinematographer Yolo's ingenuity in putting over "production" effects by camera-trickery makes this film exceptionally interesting. He utilizes split-screen and similar tricks to unusually good advantage, as, for instance, in the scenes showing a kitchen apparently flooded from a leaking faucet, and especially in the climaxing sequence pointing to the importance of water in the activities of the fire department. In this sequence he obtains real drama and "production value" with no resources other than his imagination and genuinely professional skill with his camera.

The print previewed was a "first print," and subject to some obvious corrections, which undoubtedly will be made. The recording, direct 16mm., was excellent.

THE CHAMPIONS WRITE

Documentary, 550 feet Kodachrome, sound.

Presented by Gregg Publishing Co.

Produced and photographed by: Donald Manashaw.

Recording (35mm.) by: Reeves Sound Studio, New York.

A film showing the technique used in writing shorthand by ten or a dozen na-

tional and international shorthand champions, court-reporters, etc., wouldn't seem to hold much interest to the general audience. But surprisingly enough, this film does. Producer-cinematographer Manashaw handles his subject-matter in a way that avoids repetition to a remarkable extent, despite the similarity in the subject-matter of the various sequences, and he reinforces his material with ample close-ups of the technique used.

His handling of the inevitably many extreme close-ups of the hands, and sometimes the pencil-points and fingers of the various speed specialists is in itself enough to command the respect of the photographically-minded. The way he coordinates these shots with narration which takes the place of the dictation or evidence which these experts are writing, makes the film of genuine educational worth. His balance of exposure in these shots is generally praiseworthy—no easy task, incidentally—and his lightings of them very effective. His compositions are good. In some of the longer shots, his lighting could stand improvement, though he was very obviously restricted by the limitations of working in dark-panelled courtrooms, business offices, and the like, rather than in a studio. Considering the fact that virtually all of the picture must have been made in the field, under difficult circumstances, he has turned out a praiseworthy production, and one which should certainly repay its sponsor many times over.

MAGIC FIBERS

Advertising - documentary, black - and - white (35mm. reduction.)

Presented by: Pacific Pulp and Paper Industry.

Produced and Photographed by: Joseph Yolo.

Recording: 35mm. by Cinema Screen Studio (Seattle.)

This picture of the paper-pulp industry of the Pacific northwest is an excellent production, embellished by some spectacularly beautiful photography by producer-cinematographer Yolo. While the print viewed (a 16mm. reduction from 35mm.) was of distinctly indifferent quality, it could be seen that the original 35mm. negative was of major-studio quality. Yolo has a strong pictorial-dramatic instinct, and shows it in almost every scene of this picture.

Yolo's handling of the story of paper-pulp from the forest to the completed plup carries the audience through the process entertainingly and at the same time very clearly. His treatment of the logging scenes is particularly pictorial, with excellent dramatic feeling, as well. His handling of the interior scenes within the pulp-mills—virtually every scene of which must have presented innumerable technical difficulties—is outstand-

ing. We've seldom seen factory interiors in an industrial film so well handled.

On the critical side of the ledger, we've only a few comments to offer. The narration, for example, refers to several different methods of pulp manufacture: the picture should, we think, have made this differentiation a little clearer, and perhaps showed—and definitely indicated—several methods, pointing out more clearly where and how they differ. We'd rather have liked, too, to have seen an animation sequence showing what happens in the "digesting" process. The non-informed viewer would also welcome a little more specific information on how the pulp we've seen leaving the factory is transformed into the wide variety of paper, cardboard and cellulose articles we're shown as end-products of the pulp industry. And finally, of course, we'd certainly like to see this picture in color—even though cinematographer Yolo would certainly not thank us for a suggestion which would so increase his already great technical problems!

MEN O' DEFENSE

Advertising-documentary; 550 feet black-and-white, sound.

Presented by: The Delehanty Institute.

Produced and Photographed by: Donald Manashaw.

Recording (35mm.) by Reeves Sound Studio (New York.)

Producer-photographer Manashaw obviously faced a tough problem when he made this picture. He had three branches of a large industrial school to exploit, and under today's defense pressure, he undoubtedly had to catch his scenes on the run, at times and in ways which would not interfere with the school's primary object of instructing machinists, welders and aircraft-workers.

In view of this, he has done a very creditable job. He would probably be the first to admit that if conditions had made it possible, the film would be much more effective if it could, in at least semi-dramatic form, trace the progress of some individual student through each department, from enrollment, through his training, to his ultimate job in industry, with at least some lip-synchronized dialog to aid in key parts of the story. But since this was probably impractical, due to the confusion it would introduce, and to the time-element presumably involved, he has done a very adequate job of factual, if not particularly dramatic presentation.

His technical handling of the scene, many of them shot in dark-walled rooms among dark machinery, sometimes heightened by the incandescent glow of the furnaces, welding arcs, etc., is commendable. This is especially true since he was usually working in rather cramped spaces. The picture is by no means the film a picture of this nature could be if it were possible to expend the necessary time and effort on it, but it should certainly serve its sponsor's purpose well, and sell the school and its possibilities.

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HERE'S HOW

Glass vs. Gelatin Filters

What are the respective merits of glass-mounted filters as compared to gelatin filters (unmounted)? Would you advise me to have a filter-slot cut in my camera so I can use gelatin filters?

Patrick Smoielloff.

Probably the chief advantage of using a glass or glass-mounted filter in front of the lens is that it is a bit more convenient, and of course the glass mount of the filter gives the gelatin filtering material some physical protection. On the other hand, the glass filters are more expensive—quite a consideration if you are using filters of types which may not be stable, and have to be replaced frequently—and if you are doing completely professional camerawork, where optical quality and definition must measure up to the highest standards, it is not particularly desirable to have to shoot through any more pieces of glass than you absolutely have to. Many studio cinematographers prefer to use gelatin filters for these reasons: by using the gelatin filter you eliminate two glass-air surfaces which cut down definition and absorb light; and since a gelatin filter mounted in a filter-slot directly in front of the film permits using a much smaller filter, and since gelatin filters are much cheaper than glass-mounted ones, the expense is rather considerably reduced, so that it is quite practical to use a new filter on every production, or whenever the filter you have been using begins to fade or show signs of handling.

For strictly professional use, gelatin filters in a proper mount and a well-made filter-slot would probably be preferable. But for most amateur use, the glass-mounted type are much more convenient, and quite satisfactory for most purposes.

Operatic Scenes

With a 1-inch f:1.8 lens and Super-XX film do you think I can get satisfactory pictures of (a) an operatic scene and singers on a stage that is normally lighted, and (b) the audience applauding, etc., taken from backstage. These scenes would later be worked in together with other scenes taken backstage where I can control the light.

W. M. Sheridan.

The term "normally lighted" as regards a theatrical or operatic stage covers quite a range of lighting, depending on the theatre, the methods and equipment of the individual opera company, etc., but we're inclined to think you could probably do it. Nearly twenty years ago, with ortho film that hadn't nearly the Mazda-light sensitivity of today's super-panchromatics, we made fair stills of such action with an f:4.5 lens at $\frac{1}{2}$ second, and when the Leica first took hold, we saw quite a lot of stage stills made on the early super-sensitive film at f:2 at $\frac{1}{10}$ th, so with today's film

and equipment you should be able to do it. Since you won't be in a position to take an accurate meter-reading, though, we'd suggest if at all possible you should make a test at an earlier performance. If this doesn't give you as full exposure as you want, go ahead and shoot, and then before having the film processed, give it mercury-vapor hypersensitization. Place the film, on the camera-spool but not in its can, in a light-tight box, and in the same box, but below the film and placed so no direct contact will be possible, place a small amount of mercury in a dish. Seal the box so it is both light-tight and airtight, and leave film and mercury there for from eight days to two weeks. Then remove the film and have it processed immediately. President John B. Smurr of the San Francisco Cinema Club reports using this method successfully even for Kodachrome, with which he filmed the "Ice Follies" very successfully in color.

Prescored Songs

Recently in this column you told us how music is prescored and the actors later "mouth" the words in making various types of shots. Cannot long-shots where the singers' actions are not clearly discernible be taken first as in the question above, and then fitted with music which is later recorded? Can "mouthing" the music be done so successfully in close-ups that the faking is not discernible? It seems that in practically all the close-up singing I have seen on the screen the recording has been direct, since there appears to be no trace of faking.

W. M. Sheridan.

The method of post-recording you outline can certainly be done, especially if you have some means of synchronizing your projector and recorder, as by driving both with synchronous motors, or using Synchro-Sound synchronized disc recording equipment. It is sometimes done professionally; we can recall, in fact, at least one major picture of recent years in which the actor playing a prominent part did not have the type of speech and accent to suit the part, so when the picture was edited, another player, with the desired accent "dubbed in" every bit of that player's dialog by this method.

Photographing singing close-ups to a prescored sound-track very definitely can be done so successfully that no "faking" is evident. As a matter of fact, the majority of the scenes of that nature you have seen and accepted as direct recording have been prescored that way, even to the close-ups! We can only think of one or two screen singers who do not work that way—and those players are not particularly active at present, so we can say about $9\frac{1}{2}$ out of 10 singing close-ups today are prescored. Professionally, the task is made much easier by the fact that the original recording, either on film or an acetate disc, is played

back at the time the picture is made, with the playback electrically synchronized with the camera. Thus the actor has only to follow his own voice as it comes through the loudspeaker on the set, and make the necessary movements and expressions. Usually he, or she, sings audibly at the same time, and this is also picked up by a microphone and recorded separately, so that the film-editor has a very positive guide to getting the picture and the original sound-track synchronized.

Viewing Filters

I am planning to purchase a viewing filter, and would like an article on the why and how of these filters before doing so. I use only pan film both indoors and out.

C. Polychronis.

The "monotone filter" or viewing glass serves several useful purposes. Looking at a scene through one of these filters, you can view it more as the camera and film will see it, rather than as your eye does: the filter reduces things to a monotone, and shows the colors, not as they will appear to the eye, but in pretty closely the relative tones and gradations in which the film will reproduce them in black-and-white. On an exterior scene, you will find that after a little practice, you can usually superimpose your viewing-glass and any given filter (except the nearly opaque Infra-Red filters like the Wratten 88) and form a very fair estimate of what that filter is going to do to the color rendition of the scene, how it will correct the sky, etc. On interiors, the viewing-glass is also extremely helpful in checking up on light-balance, showing the cinematographer about how his highlights, half-tones and shadows are balanced in relation to each other. Of course it tells nothing about exposure, but it does give an excellent guide to light-balancing and color rendition.

Several firms make these filters, including Scheibe, Harrison and Harrison, Eastman (Wratten) and others. Some of the film manufacturers have put out, for professional use, viewing filters intended to be specifically a guide to certain of their products. Obviously, the viewing filter and the film used must be closely coordinated, or the conclusions you reach inspecting a scene through the viewing glass won't be accurate. We would suggest that you make sure in buying a filter of this type that it is really suited to the precise type of film you are using. For example, a viewing glass designed for use with Agfa's Triple-S Pan, which is quite highly red-sensitive, would be very misleading if used for DuPont Type 1 Superior, which has a much lower red sensitivity, and a good deal higher green sensitivity, and a filter intended for use with either of these films would be misleading if you tried to use it with, say, Eastman's Panatomic-X. Viewing filters have been made for use with Technicolor, and there is no reason why similar filters couldn't be made for use with the various Kodachrome film-types, as well.



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...THE SHOWCASE...

Rose Handbook Ready

Important news to the innumerable readers who have inquired about the "American Cinematographer's Handbook and Reference Guide" by Jackson J. Rose, A.S.C., is the information, received as we go to press, that the new and enlarged Fourth Edition will be ready for distribution by or before the first of the year. Price is \$3.50, and the author-publisher's address is 1165 N. Berendo, Hollywood, Calif.

Geared Pan-head

Professional cinematographers who are most keenly critical of camera-technique have long recognized that the best assurance of uniformly smooth panning and tilting of the camera is through the use of a gear-driven pan-head. In the substandard field, where smoother panning is so greatly needed, no tripod-head of this type has been available. However, a much-needed step in this direction has this month been taken by the American Bolex Co., with the introduction of their "Gearmaster" geared pan-and-tilt tripod-head, designed to fit any substandard tripod. Operating entirely through precision gears, without the usual pan-handle, the Gearmaster has two controls. One (operated by a large knurled knob) for tilting; the other (operated by a crank) for panning. The usual locking devices are of course also incorporated. The new head is suitable for all 8mm. and most 16mm. amateur cameras, though rather light for the larger, professional-type outfits. From our own inspection of the new device, we are also inclined to consider it geared a bit too high on the panning movement; lower gearing, necessitating slower panning, would improve it greatly. The new device, however, is an important step in the right direction. It is available from dealers or the American Bolex Co., 155 East 55th Street, New York. List price is stated at \$16.50, and the device is guaranteed unconditionally for five years.

Goerz Price Boost

Due to rising production costs, the various photographic lenses manufactured by the C. P. Goerz American Optical Co. have been revised slightly upwards. This firm, which for more than 40 years has been American-owned and operated, with no connection with any other, similarly-named concerns, states that while Defense orders take up a considerable part of their production, a stock of lenses is still available for civilian use. Among these are of course the Goerz Kino-Hypar anastigmats (*f*:2.7 and *f*:3) for both 35mm. and 16mm. cine cameras, with focal lengths covering the range from 15mm. to 4 inches.

Plastic Reels

With the Defense Effort demanding a major portion of the nation's steel

output, manufacturers of cine-equipment have had to find substitutes for the making of such accessories as projection reels, etc. First of these to reach the market is an ingenious reel made entirely of molded plastics, known as the "American" Plastic Reel. Available in 200-ft. and 300-ft. sizes for 8mm. film and 400-ft. for 16mm. film, the new reel is molded in one piece of transparent plastic and is stated to be light, smooth and true-running. Available at dealers or from the manufacturer, American Molded Products Co., 1751 North Honore St., Chicago.

Demonstrations of Norwood Meter

In order to accommodate professional cinematographers who have not previously had an opportunity to see the new Norwood "Director" Exposure Meter demonstrated, and to make tests for themselves, Photo Research Corporation, manufacturers of the meter, announce that lecture-demonstrations of the meter will be held Monday evenings at the firm's laboratory. All professional cinematographers are invited to attend. However, the firm's officials state, due to the extensive preparations necessary for these demonstrations, involving securing a model, lights, developing-solutions matched to the individual cinematographer's laboratory, etc., these demonstrations will be held only on appointment. No charge or obligation is involved, but cinematographers interested in attending such demonstrations are requested to write or telephone Photo Research Corp. ahead of time, so that arrangements may be made. The firm's address is 12015 San Vincente Blvd., Los Angeles, and the telephone Arizona 93894.

Diffuser-Flectors

With aluminum under strict priority control as a defense essential, J. H. Smith and Sons, of Griffith, Indiana, have found an excellent substitute for the manufacture of photo lamps in white steel coated with a white synthetic porcelain enameled reflecting surface. The new units are marketed as Victor Diffuser-Flectors, and are available for No. 1 and No. 2 Photoflood globes, in reflector-diameters of 9, 10 and 11 inches. The diffused reflecting surface should be especially valuable in producing the softer lighting necessary for the super-fast type of films.

Midget Flashbulbs Cheaper

Growing public demand and a revision in sales methods combine to effect a price reduction of approximately 15% in the prices of three popular G-E midget Flashbulbs, the "mighty midget" No. 5, the "speed midget" SM, and the No. 11. According to General Electric, the reduction cuts the price from 13 cents apiece to 11 cents, and applies to

purchase of not less than one carton of six midget bulbs, the price of which is now 66 cents, Federal excise tax included.

Agfa Greeting-Card Kits

Self-made photographic Christmas-cards are fully as appropriate—and popular—with the cinefilming fraternity as with still-camera addicts. Therefore the announcement that the Agfa-Ansco Corp. is again offering special kits for the making of photographic greeting-cards is of particular interest.

The kit, known as Greeting-card Outfit 1A, contains four different film-masks of attractive design and special, new stenciling materials for reproducing the user's signature photographically. The masks are 5"x7" overall and are proportioned to use paper of the standard 1¼"x5½" greeting-card size. Three of the masks contain cut-out openings 2"x3" to take negatives of vertical format, while the fourth takes horizontal negatives. The outfit retails at \$1.25. Three specially-designed masks, which sell separately for sixty-five cents each, are available to accommodate various-sized negatives. A special surface of Agfa paper, known as Greeting Card Special, is provided for use in making greeting-cards. This paper is priced the same as Convira double-weight, and is supplied in four grades of contrast in deckled 4¼"x5½" size.

Magni-Focuser

A useful new photographic accessory is the Magni-Focuser Eye Shade. It consists of a special eye-shade, hood-like in shape and including a pair of five-power prismatic magnifying lenses. It is worn over the forehead like an eye-shade, with the lenses just above the normal line of vision. When the magnifying feature is needed, a slight raising of the eyes permits the wearer to look through the lenses. It should be useful in focusing cameras, inspecting negatives during development, retouching still negatives and cutting substandard film. Manufacturer is Edroy Products Co., 480 Lexington Ave., New York.

Case for Pro-Jr. Tripod

A sturdy, fibre carrying-case for the Pro-Jr. tripod has been announced by the manufacturers, Camera Equipment Co., New York.

B & H Cuts Film Rentals

At a time of increasing prices, it is encouraging to note that Bell & Howell have been able to announce sweeping reductions in feature-film rental charges on their Filmosound Library film-rental service. Reductions in rental price of over 200 recreational feature films have been announced, in some instances amounting to as much as 50%. Further

(Continued on Page 595)

You Can't Win A Scenario

By La Nelle Fosholdt
Long Beach Cinema Club

YOU CAN'T WIN!

Scene 1: Medium long-shot. Brown, with shirt collar open, tie loose, coat over arm, sleeves rolled up and sweat on brow, walking down sidewalk towards camera. He wipes perspiration from forehead with handkerchief and continues.

Scene 2: Medium shot. Brown coming up to front door. As he starts to open it, wife comes out with broom in hand, handkerchief around head and pillow and drapes in arms. She looks up frowning, and asks:

Scene 3: Closeup of Wife, saying—

TITLE:

"WHAT ARE YOU DOING HOME AT THIS HOUR?"

Scene 4: Closeup of Brown fanning himself and saying —

TITLE:

"IT WAS SO HOT, THE BOSS GAVE ME THE AFTERNOON OFF!"

Scene 5: Closeup of Wife brightening and saying—

TITLE:

"GOOD! YOU CAN HELP ME CLEAN HOUSE!"

Scene 6: Medium close shot. Brown motioning he is just sick from heat and has to lie down.

Scene 7: Medium shot. Wife leaning on broom and shaking her head as he walks around house.

Scene 8: Medium shot. Brown sits tiredly down in swing in backyard. A small table with a magazine and watering-can is sitting beside swing. Brown picks up magazine and after fanning himself a couple of times, opens it and becomes interested.

Scene 9: Long-shot. From back of swing with Brown in foreground and showing young girl in short gingham dress climbing up ladder and washing window next door.

Scene 10: Medium closeup. Brown turning page and looking over in girl's direction, back to magazine calmly and then quickly back to girl and raising eyebrows and whistling. ("Double-Take.") Raises up on elbow, a slow smile covers his face. He automatically takes a comb out of shirt pocket and starts combing his hair and fastening up shirt.

Scene 11: Medium close shot. Pan from girl's feet on ladder rung to her pretty face intent as she wipes window.

Scene 12: Medium shot. Brown, appearance much better, with magazine in front of him but watching girl from behind it. Wriggles over to edge of swing so he can see her better. Leans too far, loses balance and falls out, striking table with sprinkling can on it and sends it a-flying.

Scene 13: Medium long-shot. Girl turns



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to see what noise is and loses her balance.

Scene 14: Closeup: Girl yelling "Help!"

TITLE: "HELP!"

Scene 15: Medium shot. Brown getting up in great excitement and is all hands and feet trying to get started.

Scene 16: Medium shot. Girl, head down, hanging by knees from rung of ladder trying to hold dress up with one hand and free herself with other. Brown rushes into scene.

Scene 17: Closeup. Brown's foot as he steps in pail at foot of ladder.

Scene 18: Medium shot. Brown tries to shake off pail, at the same time trying to help girl hold up dress and re-

lease her leg from ladder.

Scene 19: Medium long-shot. Brown's back-door as wife comes out with basket of rubbish, hears commotion and looks toward him and girl.

Scene 20: Medium shot. Brown, still trying to help girl, finally grabs her around waist and pulls her away from ladder with head down just as Brown's wife walks in scene looking angry.

Scene 21: Medium close. (From waist of Brown and girl.) Brown holding girl around waist with her head down, sees wife and looking sheepish and embarrassed, he lets loose of girl and girl's legs disappear from scene.

(Continued on Page 595)

Using Arcs

(Continued from Page 559)

means excessive, especially when considered in relation to the greater freedom this modern use of arc lighting gives to director, cast and cinematographer, and to the definitely better results it enables us to put on the screen. As a matter of strict fact, the whole cost to a production of such phototechnical labor as camera staff, electrical crew, and the like, is of vanishingly small magnitude in comparison to the overall cost of even a modestly budgeted production, so that it may truthfully be said that phototechnical labor is probably the cheapest thing on the set, even if the personnel be expanded to allow for special needs like this.

In general, from my own experience, I would be strongly inclined to urge upon all cinematographers—especially those working on productions where speed is essential, or where it is necessary to work on small, cramped sets or with players with whom full rehearsal is difficult—to investigate the possibilities offered by this use of modern arc lighting, especially the use of arc broadsides as a general lighting tool. Properly used, it can be a great time and trouble-saver, and productive of genuinely improved results.

I do not, of course, recommend the use of arcs to the exclusion of every other light source. We have had too much standardization in this respect already, during the years when, largely because of sound and because the design of arc equipment itself had lagged, we almost completely overlooked the arc. Today, though, we have a variety of lighting equipment, arc and incandescent, and in an enviable range of sizes from the largest spotlight down to the little "dinky." Each of these units has a

definite place to fill in modern cinematography. We should let them fulfill their functions, rather than ruling arbitrarily that this type of equipment or that is the best, and therefore the only type to be used.

The problems we face in photographing any modern production are almost infinitely varied: unless the methods and equipment we use to meet those problems are capable of equal variation, we are sure to be at a disadvantage not only in technical efficiency, but in artistic facility as well. We need *all* of our resources, not just part of them, if we are to bring our pictures to the screen with anything approaching the perfection we are all seeking. **END.**

Set Miniatures

(Continued from Page 561)

scrapers among the trees. It was suspended above the middle-distance of the set, so that from camera-level its terraced facade blended perfectly with the lower walls of the temple as built, full-scale, on the actual set. Behind, in forced perspective, the backing suggested further reaches of jungle with palace spires projecting from among the tree-tops.

The miniature, as built by Lawernee Butler, one of the industry's finest miniature builders, was sufficiently large to extend across almost the complete width of the actual set. It permitted an almost infinite variety of camera-angles, giving Director Zoltan Korda and Director of Photography Garmes complete freedom to move the camera, panning, tilting, and dollying as might be necessary to follow the action in any way they wished. Moreover, the particular type of construction used, with the miniature portion placed well into the set itself, permitted something neither the matte-shot nor the conventional front-

miniature do: the actors, when working in the foreground of the scene, could move freely above and in front of the miniature portion, just as they could if it were a part of the actual full-scale construction.

In arguing thus in favor of the too-often overlooked set-miniature, let me conclude by stating most emphatically that I do not advocate its use to the exclusion of all other methods, such as the matte-painting, and the like. Every artifice in the repertoire of both Cinematographer and Art Director has its legitimate place in motion picture making, for technically as well as artistically, the cinema is a fluid entity, subject to infinite variation. No two pictures have or are likely to present identical problems; certainly, neither Cinematographer nor Art Director can attempt to solve all of these infinitely-changing problems by the same formula.

We can never absolutely standardize in our industry. Certain details of materials and equipment, and the basic mechanical routines of many operations can and of course should be reduced to reasonable standards to give us the mechanical efficiency good business practice demands; but the creative application of these materials and methods, the choice of this method or that process for solving a given problem, should certainly never be reduced to rigid rules and customs, even if it were possible to do so. Such short-sighted standardization, I am sure, would not only shackle our efforts in an artistic sense, but would rob them of the technical versatility which is so essential in enabling us to meet most efficiently the constantly-changing demands of modern production. **END.**

Puppetoons

(Continued from Page 563)

lish orchestras of Hylton, Ambrose, and Debroy Somers. In this country, the Puppetoon "Western Daze," features the music of Andre Kostelanetz. The second production, "Dipsy Gipsy," also features Kostelanetz music.

Pal's first puppet star was introduced as "Jim Dandy." He was recently christened with a bottle of California champagne. He is a charming little fellow, captivating, so likable. Those who have studied his gallant stride claim he is a composite combination of Gable-Taylor-Colman at their best, but Pal says he is a cosmopolite idea of America's Elmer.

In the recent production of the "Gay Knighties," Pal's little actors have been covered with new glory. "Gay Knighties" has more heart and story than any of the former productions. There is a lavishness of artistry that impresses one with a new step in progress and carries the happy-go-lucky little plot to an enthusiastic climax of brilliant hilarity when "Jim Dandy" charms a ferocious ogre with his music and wins the fair princess.

Thus, out of lines and curves, with sound and color, genius carved a new way. **END.**

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Bottleneck of the Movies

(Continued from Page 564)

really quite an experience. In its day, while not of Academy Award stature (even if there had been an Academy Oscar in those days), it was looked on as a pretty fair little job of camera-work. But today—well, it was most notable for the things it didn't have, if you follow me. Through scene after scene I squirmed in my seat and thought to myself, "This shot might be almost good if—" Yes, if this shot had had that bit of equipment or this material or the other trick we take as a matter of course today, it would be pretty near average-good in 1941—and it would have been sensational back in 1925.

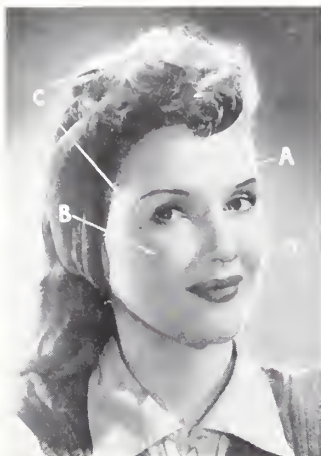
But progress behind the cameras doesn't come in world-shaking, revolutionary doses. It comes in little drips and dribbles which we pick up and use as run-of-the-mill detail improvements in our work. And when, after a few years of adding these little things here, there and everywhere, we have a chance to sit back and survey the whole picture, we find that the sum total of all the little things that have been improved bit by bit have changed and improved the whole of our work, sometimes almost beyond recognition. If anyone tries to tell you that good photography is good photography regardless, make him sit down and screen an example of the best camerawork of ten, fifteen or twenty years ago and count the improvements he can find in even an ordinary release of today!

For example, when we made "Chicago" fourteen or fifteen years ago, we had only Ortho film, which was virtually color-blind. It was very partial to blue, which it rendered almost as white, and could "see" green and some yellow; but it was wholly blind to oranges and reds, which it reproduced as inky black. Most of the actors in today's films, and a good percentage of today's directors, as well, have probably come into the industry since those old ortho-film days, so maybe I'd better explain some of the great differences that one little change of having a film which couldn't "see" red and orange made.

Sets were pretty generally painted in a monotone gray, so they'd reproduce right in spite of the film. Costumes were similarly restricted. If, for instance, you wanted something like the Swedish flag's combination of a golden cross on a blue field, you either reversed the colors or did it in two shades of gray, for the ortho film would "see" that combination as a dark-gray cross on a very light gray—almost white—field.

And makeup! We're apt to lose sight of the changes that have occurred since skilled makeup artists, rather than individual players, have had charge of this. An actress of today, wearing a properly-applied studio makeup, could almost go to a party and yet not seem unduly "made up." You couldn't do that with even the best of the fantastic "soot-and-whitewash" makeups we had to use back in the early '20's.

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Then, the lighting on the set all came from weirdly blue arcs and, weirdest of all, mercury-vapor tubes. Not at all like today's clear white Technicolor arcs, but an amazing and flickery blue which made people look like prime specimens for the morgue, but which packed a potent photographic wallop for that old blue-sensitive film. Incidentally, the ultra-violet glare from those unshielded arcs (we didn't know then that an ordinary piece of lead-glass would stop it) literally sunburned the actors' eyeballs and created the dread malady, "kleig eye."

The film itself was developed by hand,

wound around wooden racks and dunked in a tank of developer until the laboratory folks thought it was cooked. At each spot where the film took a turn around the bars of the rack, there was an embarrassing light flash where one frame or two of the negative got more development than the rest of the strip. Also, the general idea of good laboratory-work in those days was to turn out a film with incredible contrast—clear-celluloid whites, heavy, jetty blacks, and practically no middle-tones in between. No wonder audiences used to complain of eye-strain after sitting through a movie!

Very literally, if you could take a "time machine" from some horror-film set, and, fishing about among the studio world of fifteen years ago, pick up a player or technician from a 1926 set and suddenly plump him down on a 1941 set, he'd see very few things that would indicate to his 1925 mind that he was on a movie set.

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Even overlooking the sound equipment, which might not be new to him since Lee DeForest had made some experimental talkies back as early as 1921, (even before Warners' Vitaphone caught the public fancy with "The Jazz Singer"), there would be very few recognizable things. Lighting, for instance—he couldn't believe he was in a studio. Today we use only a small fraction as many lamps to expose our present super-fast film, and the lamps we use are smaller and different. Most amazing, because today's film can "see" yellow, orange and red light, we use incandescent lamps, rather than arcs. And when we do use arcs—as for effect-lightings and Technicolor, they're different; cool, quiet and steady, giving a daylight-white ray rather than yesterday's scary blue. And the arrangement of our lighting is so different a 1925 cameraman probably couldn't understand it at all.

Even the camera is different. In most studios, it's gone into hiding in a sound-proof blimp, though inside, except for minor modifications, it's not too unlike the cineboxes of 1926. But in some studios, like the 20th Century-Fox plant, where progressive executives like Darryl Zanuck and camera department head Dan Clark, A.S.C., have encouraged studio engineers to design a present-day camera, our 1925 visitor would find incredible changes. For the camera of today doesn't even look like the boxes of yesterday. They move a strip of film past the lens, but they do it noiselessly, without need of a blimp. The camera is driven by a motor, not cranked by hand. And when a scene is slated, an assistant simply moves a lever on the camera's matte-box—and the cutter gets an easily-read, full-screen slate.

The film itself is vastly different. Incredibly faster, and sensitive to the

whole spectrum of colored light—even, in some cases, to the invisible infra-red. Because of that, make-up is more natural; some stars of the feminine persuasion have even been known to wear only a light, street make-up, while many male players work with none at all. Sets and costumes use natural colors; if a wall should be red or blue-gray in reality, that's what it is on the set. And, if your star feels most at home in a blue gown, or a red one, that's what the costumer can now give her to play her scenes in.

Even the lenses which record the scene—the original movie bottleneck we started to talk about—have changed. They're better lenses than ever before—faster, to let in more light, "coated" to give a crisper, sharper picture and to allow us to get greater, more natural focal depth and even to shoot directly into strong lights. And where the average scene—especially the closeup—of the early 20s was an extremely soft-focus, woozy-looking thing, today our scenes are crisp and clear-cut as reality itself.

None of these changes came overnight, even though in their cumulative effect they've revolutionized cinematography without our being aware of it. As a matter of fact, the technical advances which enabled Gregg Toland, A.S.C., to do such amazing things with camera, light and lenses in "Citizen Kane" all had their beginnings from two to four or five years ago.

A manufacturer evolved a slight improvement in his product here; a cinematographer suggested to another supplier that he'd like a film or lens that would do this or that differently. And at the monthly technical meetings of the American Society of Cinematographers, Hollywood's directors of photography, perhaps in formal session, perhaps in

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informal chats later around the bar, suggested to each other ways and means in which these many little detail improvements could be incorporated into existing technique, and maybe put to new and unsuspected uses.

The result, if you look at it from the viewpoint of fifteen, or even ten years back, is revolutionary; but from today's viewpoint, it's just natural evolution. And the "revolutionary" technicalities of the sensational films of tomorrow—and of next year and the year after that—are quietly germinating today in the same way, though we can't perceive them.

The only thing that hasn't changed, and probably never will, is the movie's little, glass bottleneck—the lens through which all that makes a production is transmitted to its paying audiences all over the world. But as long as the industry's cinematographers keep their eyes fixed on the best utilization of each unspectacular little detail improvement that comes along, and their sights trained on the ideal of making each scene better today than they could have done it yesterday, I think we can safely conclude that our industry's bottleneck is in good hands. END.

Picture Partners

(Continued from Page 565)

structively to the production—to do their part to make it visually, as well as verbally and dramatically, outstanding.

Here's the way we've worked it in practice so far. Before we start shooting, the cinematographer and I study the script together, in as much detail as possible. We agree on the basic mood and visual treatment generally. Then as shooting progresses, we work together in perfect partnership. At night, the director of photography takes his script home and analyzes the next day's shooting in terms of visual treatment, just as I study things to prepare myself to handle them dramatically. A chap like Haller, for example, will usually break things down into quick sketches to indicate graphically each scene, angle and set-up.

In the morning, before shooting, we'll check these sketches over together, making sure that our concepts are reasonably well in agreement. Then we'll proceed to carry them out on the screen, each dealing with his own part of the job. Of course we sometimes don't quite agree; then, with fellows like Edson or Haller, we'll talk it over until between us we find just why the scene should or shouldn't be done that way. For example, sometimes I'll listen to the way Ernie wants to deal with a certain scene, and then in my ignorance I'll ask why it can't be done some other way. To that, he may reply with a good, logical reason based on his many years of experience making all kinds of pictures—or we may find we've accidentally hit on something a bit new and useful. In any event, the picture is a lot better for that sort of cooperation.

Frankly, I think the general run of our pictures—"A" productions, anyway—would be immensely benefited if they

could have the advantage of the cinematographer's picture-trained brain participating in the final stages of scripting, as well as on the set. Whether you agree with Orson Welles' concept or not, most of us are agreed that "Citizen Kane" was in every way a remarkable achievement in cine-storytelling; and I don't think it is in any way detracting from Welles' acknowledged brilliance as a producer-director to point out that he made full use of the capabilities of Gregg Toland, A.S.C., by having his director of photography work closely with him during the last eight or ten weeks of preparing the production, and then gave him a very free hand in guiding the visual side of the picture during the shooting. Without that, it is very safe to say that "Citizen Kane" would not have been so arrestingly cinematic.

That sort of pre-production cooperation would pay dollars-and-cents dividends, too. I'm sure it would cut down measurably on "protection-shots," set-construction, and the like. I've already learned that if you only give him a chance to make the suggestion soon enough, a skilled cinematographer can show you how to suggest things with the camera, rather than having to build them in expensively literal sets. For example, one of the biggest-appearing scenes in "Kane" was, if you'll analyze it, suggested by simply using a huge fireplace, a massive staircase—and an imaginative camera.

Often, too, in writing on preparing a script, we'll note down this scene or that

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Write

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sequence as "process," and mark it for the attention of the special-effects staff. Actually, it might be more efficient to film that action by straightforward methods—and other scenes we've completely overlooked could be done much more economically as process-shots! The cinematographer's unique grasp of both technique and production methods, if called into consultation earlier, could undoubtedly save us a good many more or less costly mistakes along these lines.

The ideal system, I'd say, would be to have the director, the director of pho-

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tography and the scenarist work closely together as the script is put into final shape for shooting, sketching out each angle and set-up as they went along, until they finally reached the shooting stage with a script combining words and sketches to make a genuine blueprint of the completed production. In that way, I am sure, we could save on set-construction, save on shooting-time, save on normally over-shot footage and "protection-shots," and turn out a production that was dramatically and visually more coherent, doing it much more easily and surely because of taking the real picture-mind of the cinematographer into full partnership. END.

Training Films

(Continued from Page 566)

the hands of his superiors, will be noted on his periodical "efficiency report." His value to the service will be determined by what he produces, and will be a governing factor in deciding his eligibility for promotion.

At this point, the activity which would ordinarily be expected as in a Hollywood studio will not be found during the production of a training film. In preparation for the camera's churn, no painters, carpenters erecting scaffolds, or designed sets will appear, as most of the work is performed in the

field with a natural background.

In making further comparison to a Hollywood production, the same amount of patience which is necessary for a good scene in a first-rate motion picture must be employed in a training film production. Scenes which sound reasonable on paper very often lay a golden egg on the set.

The cinematographer may find it impossible to acquire the proper angle which the director is trying to convey, or difficulty may be encountered because of inadequate equipment. The time allotted to the director in having troops available at certain times may interfere with their special duties and regular training periods. The director, not unlike that of one in Hollywood, also has his hands full in keeping his schedule up to date. A day's shooting, under constant strain, still only produces about three minutes of edited action in the finished picture.

Lurking in the shadows, and compiling sufficient data to play his part successfully in the final stages of our drama is the one person in whom the ultimate success or failure of the training film is entrusted—the cinematographer. He stands alone in his decisions when translating his ideas of coordinating the camera treatment, composition, lighting, and in framing the mood desired.

The rapidity necessitated in the various movements of producing a training film is not abated until the resultant efforts are finally on the screen, approved, and released. The pressure and determination for quick action is passed on to the cinematographer when his zone of action is reached. He, too, must labor under the same relentless, nerve-wracking elements which characterized the work of his predecessors in the production. His training and skill will be placed upon the auction block when recording the efforts of the entire staff, and is very often subjected to either severe or commendatory criticism by the reviewers.

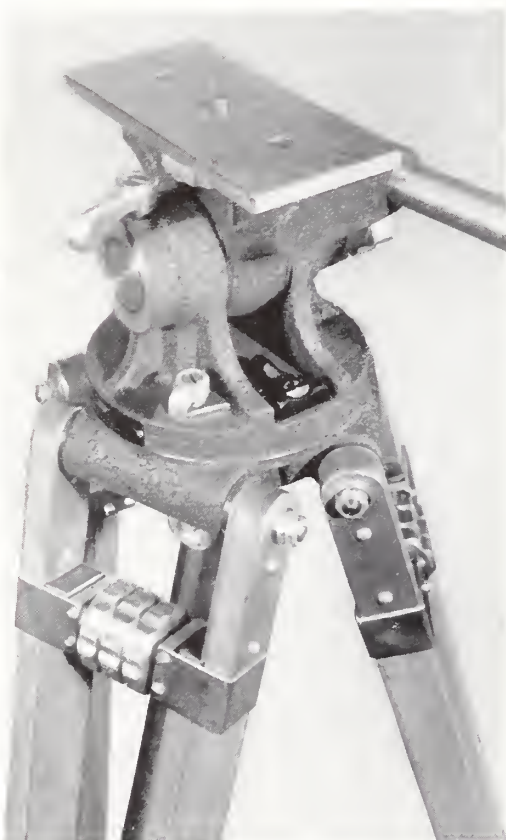
When the final "production" scenes have been shot, the noncoms are given their orders and the entire complement, like a magic military pattern, react in unison. The troops and equipment are marched to their designated organizations and the production moves "indoors." The golden link in our chain has been set in its mold and the anxiety as to whether it will eventually tarnish, or shine forth in true brilliance will be determined in the cutting-room. Swift continuity is accomplished during this period by deleting unimportant material in bringing the scene fragments into a single mosaic.

The monotonous repetition of successive sounds can be heard from the constant drone of the "Moviola" where an expert eye checks every minute detail for precision and technical accuracy. When this task has been accomplished, and corrections made, the production is shown "in the rough" to the directors for further revision.

In this preview, scenes will be miss-

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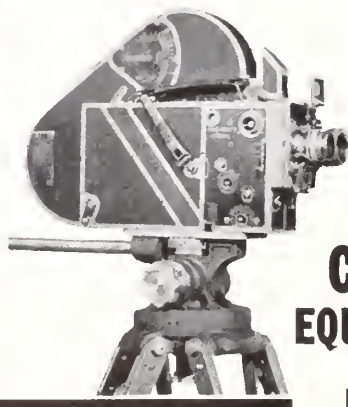


The "Professional Jr." tripod is the most rigid on the market and has many features which are usually found only in regular heavy professional models. For example, it has a wide flanged base to assure steady panning, super smooth action of the friction type tilt head and a pin and trunnion of generous size to minimize the effects of wear and make possible smooth tilt shots.

A sturdy handle screws into the top to control the movements, but for carrying, is removed and screwed into a socket in the center of the base. Wooden legs locked by a quick release knurled knob can be adjusted for height by a twist of the knob set between each leg. The extended height of the tripod is 86½", low height 46". Top plate can be set for 16mm Eastman Cine Special with or without motor as well as the Eyemo 35mm camera with or without motor and 400 ft. magazine. It will also take the DeVry 35mm camera. The tripod legs are reinforced to the head to assure steadiness at all positions.

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Left: 16mm Eastman Cine Special mounted on "Professional Jr."

Right: 35mm Eyemo with motor and 400 ft. magazines mounted on "Professional Jr."



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ing, together with smooth fade-outs and dialogue which may require "sprucing up." The film editor then makes all necessary arrangements in reconstructing the details of a polished story for instructional use. This process is long and arduous, and oftentimes requires several days for "dubbing in" the remaining dialogue or narration. Repetition of highly technical detail action by the animation artists is taken care of at the same time, and when every item has been thoroughly checked by the entire staff, the film is ready for final assembly. Another very potent weapon has been added to the arsenal of democracy. **END.**

Wipes

(Continued from Page 575)

field in any direction; have these—by animation—become wider and wider until finally the whole field is "blacked out." You can do the same thing in a checkerboard pattern, a spiral, or almost any other pattern. And of course, once you've caught on to the tricks of animation, you can make things more spectacular by having the whole pattern—as, for instance several expanding, radial segments—revolve or move about the frame in coordination with the action, while at the same time they expand to produce the wipe.

In fact, once you've gotten the hang of making these mattes by direct photography or by animation, you'll find that the limits of these printed-in wipes are set largely by the limits of your own imagination. It's helpful to remember that, as a general thing, the black areas in your original shot will represent the second or incoming scene, and the white areas, the first, or outgoing one. And once you've gotten onto this technique, you'll find that the 35mm. professional with his optical printer is surprisingly little ahead of what you can do in 16mm. with negative-positive and a simple contact printer! **END.**

Pan-Focus

(Continued from Page 576)

These super-fast films have another advantage. The major part of their increased speed is not so much in the highlight region as it is in what the film manufacturers call "shadow-speed." This means that if you take your indoor meter-reading on your subject's face, as most of us do, these faster films will reach into the shadows much better than you were accustomed to having the older, slower films do. You'll find yourself getting better detail in the shadows than you have been accustomed to seeing. And naturally, if you're after heavily-shadowed effect-lightings, brother, you'll just have to see to it that your shadows are really shadows!

Well, there it is: with today's super-speed 16mm. and 8mm. reversal films together with the mechanical and optical advantages substandard equipment gives

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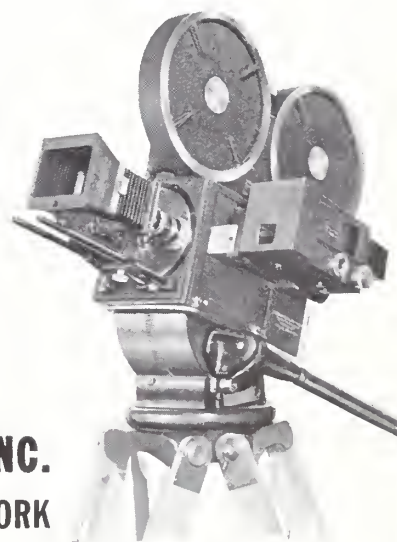
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you, you can not only reproduce Gregg Toland's "pan-focus" effects in your home movies, but—technically, at least—you can actually improve on them. Whether or not you put an artistically better job on your home screen is up to you, for the factor that made "Citizen Kane" and the various other professional films in which this "pan-focus" technique was used such outstanding examples of cinematography wasn't by any means the simple fact that they provided a sharply-defined image of everything within the camera's view. Composition and light-balancing were, as always, even more important factors. Mastery of them is what makes the aces among the 35mm. professionals outstanding—

and it's what singles out the aces among the 16mm. and 8mm. amateurs, as well, regardless of what methods, equipment or film they may use! **END.**

Tommy Atkins

(Continued from Page 577)

synchronized that the paper travels at precisely the same rate as the enlarged image of the negative, so that, in effect, image and paper are motionless with respect to each other. Since the original "Recordak" negative has been made under precisely controlled conditions of uniform focus, lighting and exposure, there is no need for any sort of compensation when making the

enlargement. Focus and magnification are fixed, and the exposure automatically standardized.

From the enlarger, the roll of sensitized paper goes directly into an automatic developing-machine, exactly like

any conventional motion picture film developing machine except that it is made to take a web of film some 4 inches wide, rather than the more familiar 35mm. or 16mm. celluloid strip. The paper travels through the usual tanks of developer, hypo and wash-water, and finally passes over a heated drying-drum and is spooled.

The letters contained on the original 100-foot roll of 16mm. film have now been printed onto a roll of paper some 4 inches wide and several hundred feet long. This roll is rewound and inspected, and any photographic faults noted are, if possible, corrected.

Then the roll is put into a continuous, automatic chopper which, actuated by a photoelectric cell, cuts the individual letters from the roll into sheets 4 inches wide by about 5 inches long. These final processing operations turn out the letters at the rate of some 1200 letters per hour.

Three or four times a day another Post Office messenger calls at the Kodak plant and takes away many thousands of these prints. At the Post Office they are sorted and folded so as to show only the name and address which the sender wrote in the bottom panel, and put into special envelopes with the word "Airgraph" boldly printed at the top, and with the address panel showing through a cut-out area at the bottom. Then, as the last step in their long voyage from Africa to England, they go into the mail like any other letter, and are delivered to homes scattered all over the British Isles.

By the time this appears in print, it is probable that a two-way "Airgraph" service will be in operation, not only conveying to England letters from the troops on the North African front, but replies from families and friends back home in England. And in spite of its superior speed and safety, this service is far cheaper than ordinary air-mail, which costs 30 cents per half-ounce, and, as we've said, takes from a month to five or six weeks in transit. An

"Airgraph" makes the trip in ten days or less—and costs but 6 cents. Small wonder, then, that Tommy Atkins is turning to 16mm. to take his letters home! END.

Movie Clubs

(Continued from Page 580)

boy and cowgirl entered the room, with guns blazing. Upon being overpowered and unmasked, they stood revealed as Past-President Bill Wade and his wife, who everyone had thought moved permanently to Kansas City. Given an unexpected vacation, they had driven to Los Angeles to attend this Past Presidents' Night at the 8mm. Club. They received a hearty and vociferous welcome.

Four new members were introduced: Ellen and Mervyn Gill; George Blaisdell, former Editor of THE AMERICAN CINEMATOGRAPHER; and Marshall Crawshaw. The official films of the Club's Annual Picnic were shown, as were private films of the same subject made by Everetta Brandes and John N. Elliott. Announcement was made of the Annual Contest and Banquet, to be held December 13th.

BETTY BARNEY, Secretary.

Nat'l. Parks for Philly

Scheduled highlight of the November meeting of the Philadelphia Cinema Club was the screening by John V. Hansen, of Washington, D. C., of Series 1 of his Kodachrome picture "The Glory of Our National Parks." The series include Monument Valley; the North Rim of the Grand Canyon and the Kaibab National Forest of Arizona; Bryce and Zion National Parks in Utah; and pictures of Navajo Indian life. Besides Mr. Hanson's film, member Virgil Woodcock was scheduled to show his "Summer Symphony," and Mike Angelo, his "Skipper Hankins." Officers and members of the Allentown and Norristown Cinema Clubs were also invited to attend as the Philadelphia Club's guests.

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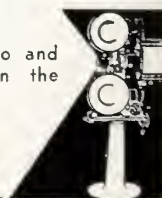
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Washington S.A.C. Busy

The November meetings of the Washington Society of Amateur Cinematographers both featured outstanding programmes. The November 17th meeting featured a 1,000-foot sound-on-film Kodachrome production, "Emilie," screened and explained by its producer, Mr. Merriken. Milton J. Pike exhibited one of his latest color films, and talked on "Making Movies Move," and Wilbur Comings discussed "Gadgets and Their Use." Three 8mm. films, the work of Messrs. Wilcox, Dreier and Dr. Brodie, were presented for criticism and instruction.

The Society's Annual Banquet, at the Fairfax Hotel, Nov. 22, featured T. A. Vlier's 16mm. Kodachrome picture, "Western Dream," the Society's outstanding travelogue of the year, and "Yellowstone Park," filmed by the President of the Washington 8mm. Club, and considered as that Club's outstanding film of the year. "Chromatic Rhapsody," one of the A.C.L.'s "ten best" was also shown.

JOHN T. CHEDESTER, President.

Mt. Vernon Sees Red Cross Film

Feature of the November meeting of the Mt. Vernon (N. Y.) Movie Makers was the showing of a film made by President Walter Bergmann and Secretary James J. Berman for the Mt. Vernon Red Cross. The film was warmly applauded, and was made the subject of a general discussion and analysis.

In addition, Vice-President William Knight read the interesting lecture on "What We Can Learn From the Professional," illustrated with slides and furnished by the Eastman Kodak Company. It was decided that the Club's first Annual Contest would be held at the April meeting. The Scenario Committee, headed by George Kirstein, reported it was busy selecting a script for the forthcoming Club picture. It was also announced that there are still a few vacancies in the Club for active cinemakers.

JAMES J. BERMAN, Secretary.

Minneapolis Sees Canadian Film

Scheduled features of the November meeting of the Minneapolis Cine Club was a showing of Harold Bronson's excellent Canadian film, supplemented by a talk by Bronson on his filming methods. Carroll Michener was also slated for a similar screening and exposition of methods. E. E. Ibberson was to report on new ideas and novelties from current photographic magazines, and Dr. Cyrus Hansen to present a technical forum on the making of surgical movies.

ROME A. RIEBETH.

War Work for Clubs

As we go to press, Amateur Clubs all over the country, headed by the progressive Long Beach Cinema Club, are telephoning, telegraphing and writing THE AMERICAN CINEMATOGRAPHER asking "What can patriotic cinemateurs do to help win the war?" We don't know—yet. But we'll find out, and report fully, if possible next month.

Scenario

(Continued from Page 587)

Scene 22: Closeup. Wife saying meaningfully—

TITLE:

"SO YOU'RE TOO SICK TO HELP ME CLEAN HOUSE?"

FADE OUT.

Scene 23: FADE IN. Closeup of window from outside looking in. Window covered with Bon Ami. Clear area in glass appears as Brown wipes off center of window. Brown's face appears with a black eye. He looks directly in camera and says—

TITLE:

"IT'S NO USE FELLOWS, YOU CAN'T WIN."

THE END

Showcase

(Continued from Page 586)

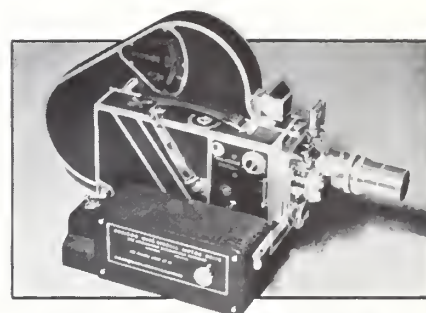
reductions are offered to patrons of the "Annual Service" plan who use not less than six features or forty reels of short-subjects per year. New catalogues describing the library's 3,000 films are available to owners of 16mm. projectors

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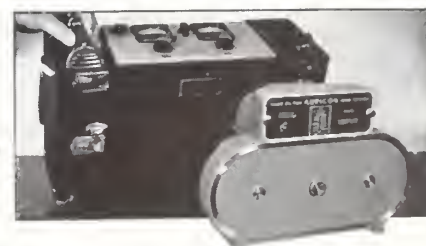
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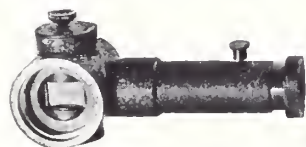
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Kodachrome enthusiasts who have had 2x (2¼x3¼) Kodak Minicolor prints made from their 35mm. Kodachrome transparencies now have available a place to put their color-prints. Pocket folders and cases, made of maroon leather-like material, are available in sizes to hold one, two and three prints, and a spiral-bound album holding up to 24 prints in transparent, cellulose envelope-pages is also to be had.

Slide Cleaner

The troublesome task of cleaning 2x2 cover-glasses before mounting in them minicam transparencies for use as slides is simplified by the recent introduction of Leitz Slide Cleaner, marketed by E. Leitz, Inc., New York. The product is stated to effectively remove dirt, grease, smudges and fingerprints from the glass, and to be equally useful in cleaning the outer surfaces of glass-mounted slides which have become soiled from use. The product is put up in 2-ounce bottles, and supplied with a special fountain applicator, fitted with a plastic reservoir and a sponge-rubber swab with which the solution is rubbed on the glass.

Billy Meilor

(Continued from Page 567)

merely matching the key to suit the rest of the sequence.

"The really important thing is to match the mood and style of the photography so closely to the story and action that the audience isn't conscious of whether the photography is either good or bad. Of course, if photography in a picture is downright bad, or crude, they'll notice it. But it isn't always realized that they'll notice it, too, if the photography is too perfect—to pictorial. One is really just as bad as the other, only on opposite ends of the scale. The minute the audience begins to notice consciously what you've done with your camera, they'll begin to let their attention slip from the story. And that's bad, believe me—very bad, for it means the cinematographer is work-

ing against the rest of the troupe, rather than with them, to give the audience entertainment in the most complete form." END.

Carry Your Compositions

(Continued from Page 573)

Or else, equip yourself with an alignment gadget that permits sliding your finder into the exact spot occupied by the lens in shooting. This way you can line the shot up to perfection, and be very sure you won't be accidentally including in the frame anything that will give the trick away.

If you're handy with tools, or have a friend who is, you can carry this idea a bit farther, and even build little foreground pieces—like the two planks in the sketch which suggest a picturesque dock where there really is none. And if you want to, you can go even a bit beyond this, and make use of set-miniatures for this purpose. For instance, in the sketch of the beach scene, there's really nothing in the shot to give any indication whether the suggested pier in the foreground is built in full size, or if it is a miniature. If you can align your shot accurately, a miniature will do very well indeed, especially since the lenses used on 16mm. and 8mm. cameras have, when stopped down as you do on exteriors, tremendous depth of field, so that a comparatively small construction placed relatively close to the lens will be in adequately good focus even when the camera is focused near enough infinity so the distance is also sharp. In the desert-scene in the sketch, you could even get the same general effect shown if you used one of the small, potted cacti obtainable anywhere in that country. This would have an added advantage—when the shot is filmed, you can take your "foreground" home and put it on the mantel! END.

Emergency Splices

When you're projecting a film and a splice breaks, you need an emergency splice and you need it right away. Just slit the two ends of the film and slide the slitted ends together and you can carry on safely. Or you can butt the two ends of the film together, and slap a strip of Scotch tape across them, with the tape running the long way of the film.

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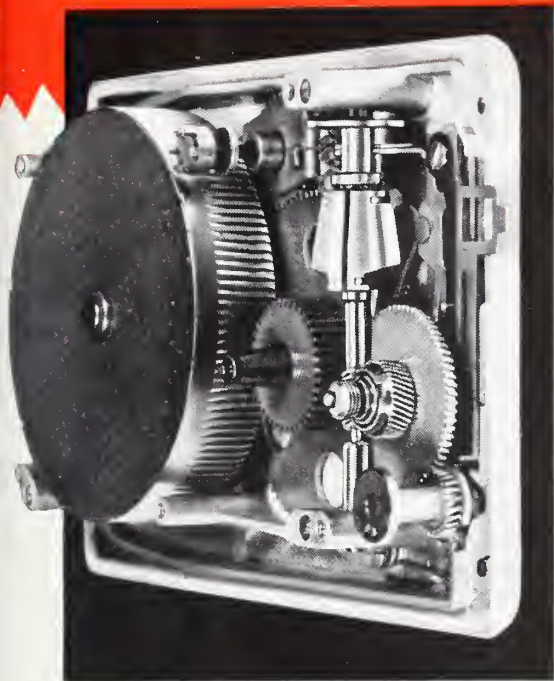
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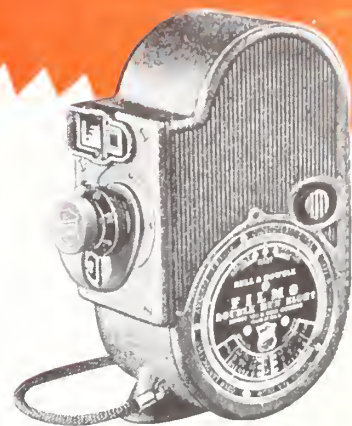
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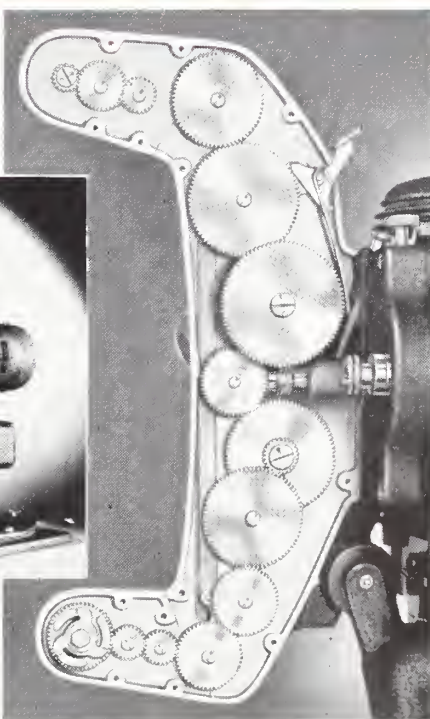
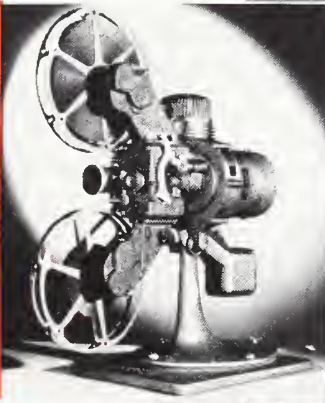
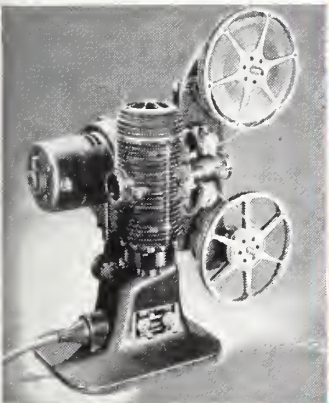


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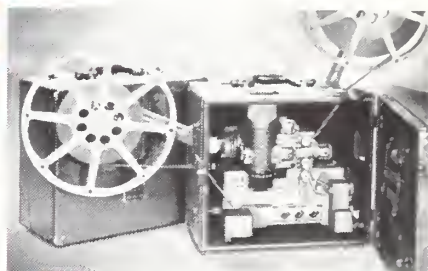
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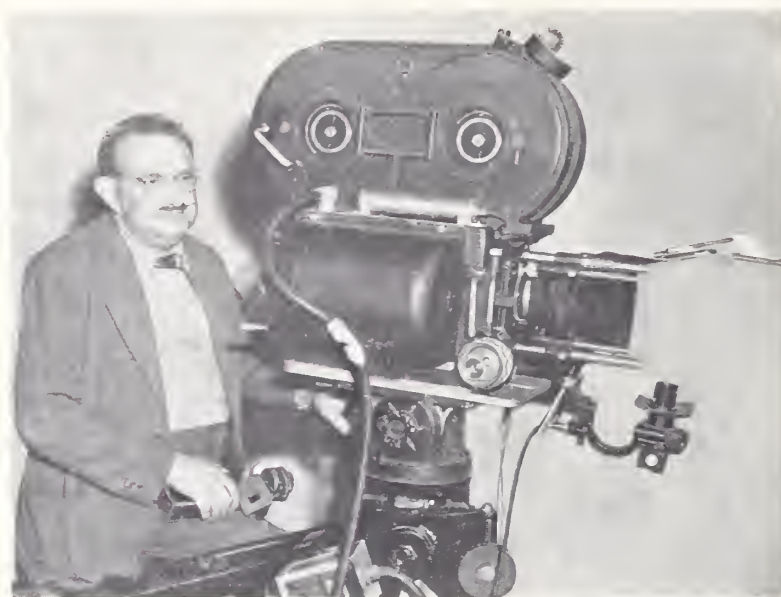
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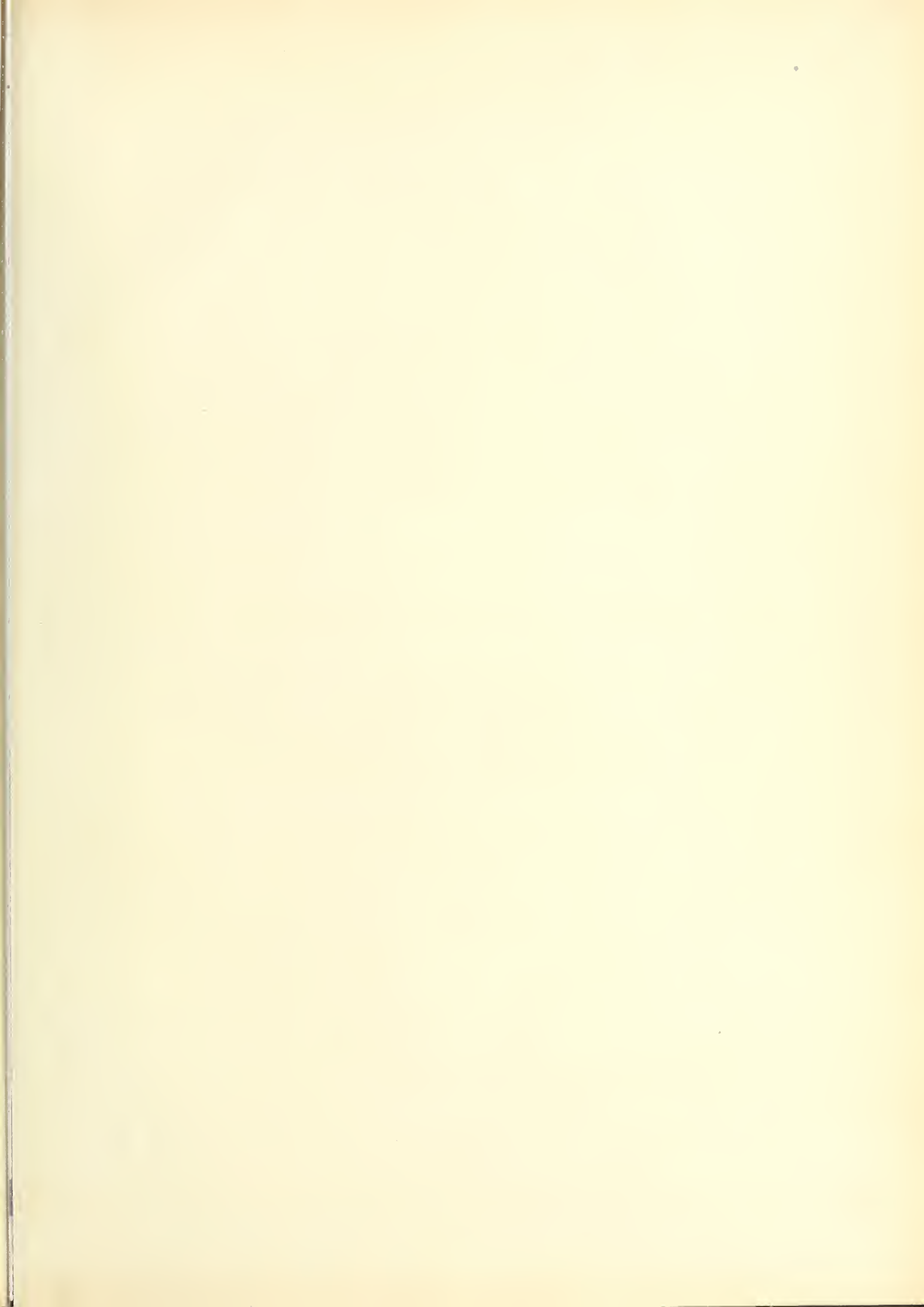
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